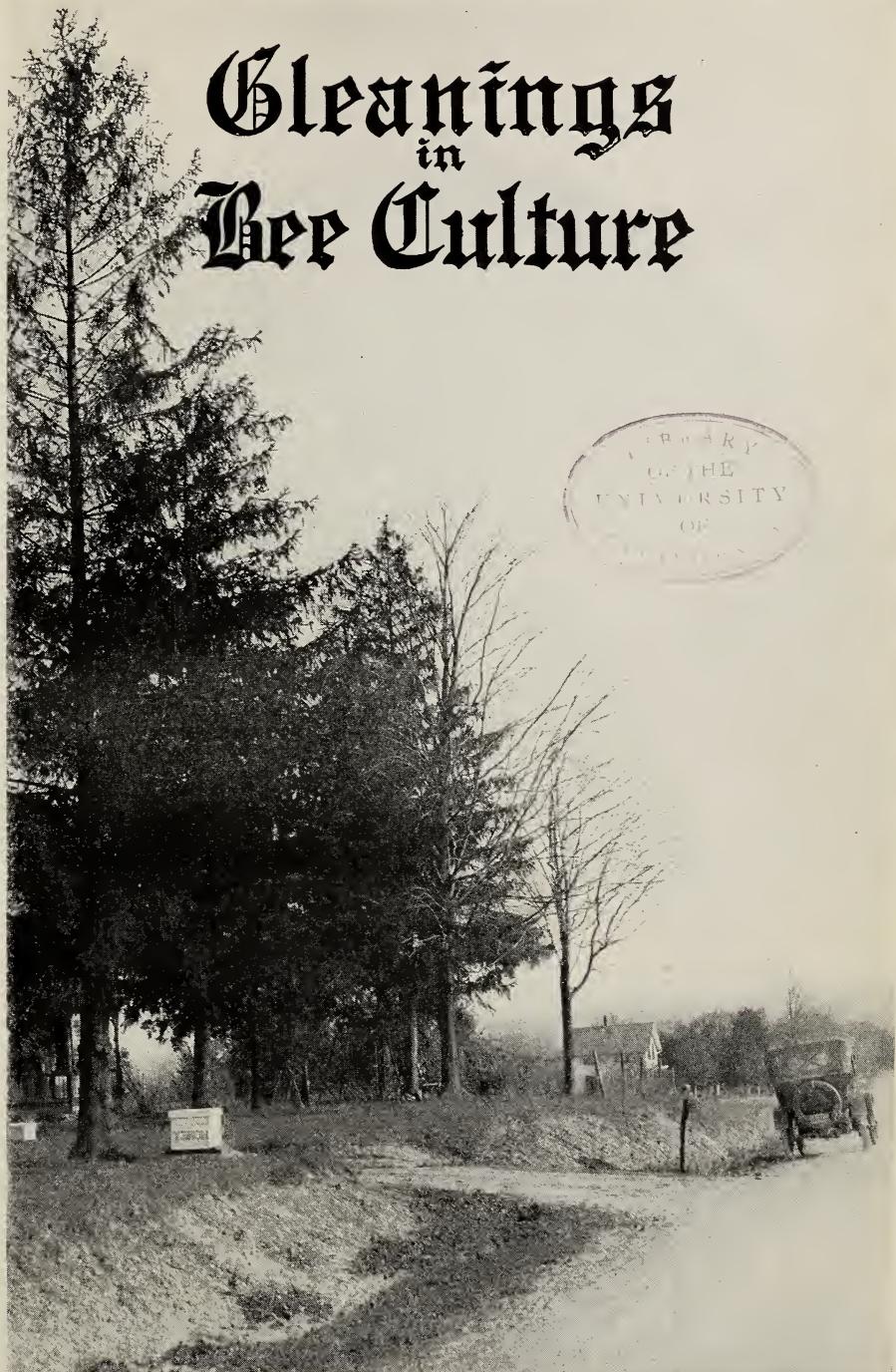


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

GIFT
JUL 11 1916

Gleanings *in* Bee Culture





THE COAST LINE TO

MACKINAC

DETROIT



CLEVELAND, BUFFALO, NIAGARA FALLS
TOLEDO, PT. HURON, ALPENA, ST. IGNACE.

A REAL VACATION

The Water Way is the Only Way

The Great Lakes is the mecca for particular and experienced travelers on business and pleasure trips. The D. & C. Line Steamers embody all the qualities of speed, safety and comfort. The freedom of the decks, the cool, refreshing lake breezes, the commodious state rooms and unexcelled cuisine, make life aboard these floating palaces a source of enjoyment.

"D. & C. A SERVICE GUARANTEE"

During Summer Season the Two Giants of the Great Lakes, Strs City of Detroit III and City of Cleveland III, operate daily service between Detroit and Buffalo; daily service between Detroit and Cleveland, also delightful day trips during July and August, as well as two boats out of Detroit and Cleveland every Saturday and Sunday nights during these two months. FOUR TRIPS WEEKLY FROM TOLEDO AND DETROIT TO MACKINAC ISLAND AND WAY PORTS—From June 25th to September 10th, SPECIAL STEAMER CLEVELAND TO MACKINAC ISLAND. TWO TRIPS WEEKLY. NO STOPS ENROUTE EXCEPT AT DETROIT EVERY TRIP. Daily service between Toledo and Put-In-Bay, June 10th to September 10th.

YOUR RAILROAD TICKETS ARE ACCEPTED

On D. & C. Line steamers for transportation between Detroit and Cleveland, Detroit and Buffalo, either direction.

Send two cent stamp for illustrated pamphlet and Great Lakes Map. Address L. G. Lewis, G. P. A., Detroit, Mich.

DETROIT & CLEVELAND NAVIGATION COMPANY

PHILLIP H. MCMLLAN, Pres. A. A. SCHANTZ, Vice-Pres. & Genl. Mgr.
All D. & C. Steamers arrive and depart Third Avenue Wharf. Central Standard Time.



GET THIS BOOK

Galloway's wonderful book of bargains describes fully and prices Galloway Cream Separators, Manure Spreaders, Gasoline Engines, Farm Tractors. Saves 1-3 to 1-20 prices generally. Also lists and prices farm implements, fencing, auto supplies, everything for farm and house.

SAVE MONEY

By asking for this 260-page book today. A postal will do. First edition exhausted; second edition this bargain book now ready.

WM. GALLOWAY CO.
Dept. 767 Waterloo, Iowa

BARNES' Hand and Foot Power Machinery

This cut represents our combined circular saw, which is made for beekeepers' use in the construction of their hives, sections, etc.

Machines on Trial

Send for illustrated catalog and prices. Address

W. F. & JOHN BARNES CO.
545 Ruby St.
ROCKFORD, ILLINOIS



Kill All Flies! They Spread Disease

Placed anywhere, Daisy Fly Killer attracts and kills all flies. Neat, clean, ornamental, convenient, and cheap.

Made of metal that won't split or tip over; will not soil or injure anything. Guaranteed effective. Ask for

Daisy Fly Killer

Sold by dealers, or 6 cent by express, prepaid, \$1.00.

HAROLD SOMERS, 160 DeKalb Ave., Brooklyn, N.Y.



The "BEST" LIGHT



Positively the cheapest and strongest light on earth. Used in every country on the globe. Makes and burns its own gas. Casts no shadow. Clean and odorless. Absolutely safe. Over 200 styles. 100 to 2000 Candle Power. Fully Guaranteed. Write for catalog. AGENTS WANTED EVERYWHERE.

THE BEST LIGHT CO.
306 E. 5th St., Canton, O.

EMBARGO ON BEE SUPPLIES

Pennsylvania, New Jersey, New York, and New England states beekeepers should not delay putting in their stock of supplies as early as possible. The eastern railroads are so heavily laden with freight it is indefinite as to just how long it will take to receive goods after they leave the factory or dealer. Ordering your requirements a month earlier than usual will cost no more, and will assure you of having supplies on hand when the time comes to use them. This will allow for any delay which might occur in transit.

As never before we are especially prepared to take care of the beekeepers' orders and give prompt service. Above all, we assure the purchaser of satisfaction, and we never consider a deal closed until we feel sure our customer has received the guarantee of satisfaction which goes with every package, crate, or box leaving our factory.

Those beekeepers who have not received a copy of our new RED CATALOG should not hesitate to send for a copy. It gives descriptions and prices of all the beekeepers' supplies, from the requirement of the smallest to that of the largest beekeeper. A postcard will bring it to your address free.

Red Catalog, postpaid.

Dealers Everywhere.

"Simplified Beekeeping," postpaid.

W. T. FALCONER MFG. COMPANY, FALCONER, NEW YORK
where the good beehives come from.

HONEY GRADING RULES

GRADING RULES OF THE A. I. ROOT CO., MEDINA, OHIO.

In harmony with the Federal net-weight regulations and the statutes of many states, all comb honey we handle is figured with the weight of the section box as well as the case excluded. To get the net weight, deduct the weight of the empty case and 1 lb. 8 oz. for the weight of 24 sections (1 oz. each).

COMB HONEY.

Extra Fancy.—Sections to be evenly filled, combs firmly attached to the four sides, the sections to be free from propolis or other pronounced stain, combs and cappings white, and not more than six unsealed cells on either side. No section in this grade to weigh less than 14 oz. net. Cases must average not less than 22 lbs. net.

Fancy.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain; comb and cappings white, and not more than six unsealed cells on either side exclusive of the outside row. No section in this grade to weigh less than 13 oz. net. Cases must average not less than 21 lbs. net.

No. 1.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain; comb and cappings white to slightly off color, and not more than 40 unsealed cells, exclusive of the outside row. No section in this grade to weigh less than 11 oz. Cases must average not less than 20 lbs. net.

No. 2.—Combs not projecting beyond the box, attached to the sides not less than two-thirds of the way around, and not more than 60 unsealed cells exclusive of the row adjacent to the box. No section in this grade to weigh less than 10 oz. net. Cases must average not less than 18 lbs. net.

CULL COMB HONEY.

Cull honey shall consist of the following:

Honey packed in soiled second-hand cases or that in badly stained or propolized sections; sections containing pollen, honey-dew honey, honey showing signs of granulation, poorly ripened, sour or "weeping" honey; sections with combs projecting beyond the box or well attached to the box less than two-thirds the distance around its inner surface; sections with more than 60 unsealed cells, exclusive of the row adjacent to the box; leaking, injured, or patched-up sections; sections weighing less than 10 oz. net.

EXTRACTED HONEY.

This must be well ripened, weighing not less than 12 lbs. per gallon. It must be well strained; and, if packed in five-gallon cans, each can shall contain sixty pounds. The top of each five-gallon can shall be stamped and labeled, "Net weight not less than 60 lbs." Bright clean cans that previously contained clean light honey may be used for extracted honey.

EXTRACTED HONEY NOT PERMITTED IN SHIPPING GRADES.

Extracted honey packed in second-hand cans, except as permitted above.

Unripe or fermenting honey, or weighing less than 12 lbs. per gallon.

Honey contaminated by excessive use of smoke.

Honey contaminated by honey-dew.

Honey not properly strained.

GRADING RULES OF THE COLORADO HONEY-PRODUCERS' ASSOCIATION, DENVER, COL.,
FEBRUARY 6, 1915.

COMB HONEY.

FANCY.—Sections to be well filled, combs firmly attached on all sides and evenly capped, except the outside row next to the wood. Honey, comb, and cappings white, or slightly off color combs not projecting beyond the wood; sections to be well cleaned. No section in this grade to weigh less than 12½ oz. net or 13½ gross. The top of each section in this grade must be stamped, "Net weight not less than 12½ oz."

The front sections in each case must be of uni-

form color and finish, and shall be a true representation of the contents of the case.

NUMBER ONE.—Sections to be well filled, combs firmly attached, not projecting beyond the wood, and entirely capped except the outside row next to the wood. Honey, comb, and cappings from white to light amber in color; sections to be well cleaned. No section in this grade to weigh less than 11 oz. net or 12 oz. gross. The top of each section in this grade must be stamped, "Net weight not less than 11 oz." The front sections in each case must be of uniform color and finish and shall be a true representation of the contents of the case.

NUMBER TWO.—This grade is composed of sections that are entirely capped except row next to the wood, weighing not less than 10 oz. net or 11 oz. gross; also of such sections as weigh 11 oz. net or 12 oz. gross, or more, and have not more than 50 uncapped cells all together, which must be filled with honey; honey, comb, and cappings from white to amber in color; sections to be well cleaned. The top of each section in this grade must be stamped, "Net weight not less than 10 oz." The front sections in each case must be of uniform color and finish, and shall be a true representation of the contents of the case."

Comb honey that is not permitted in shipping grades

Honey packed in second-hand cases.

Honey in badly stained or mildewed sections.

Honey showing signs of granulation.

Leaking, injured, or patched-up sections.

Sections containing honey-dew.

Sections with more than 50 uncapped cells, or a less number of empty cells.

Sections weighing less than the minimum weight.

All such honey should be disposed of in the home market.

EXTRACTED HONEY.

This must be thoroly ripened, weighing not less than 12 pounds per gallon. It must be well strained, and packed in new cans; sixty pounds shall be packed in each five-gallon can, and the top of each five-gallon can shall be stamped or labeled, "Net weight not less than 60 lbs."

Extracted honey is classed as white, light amber, and amber. The letters "W," "L A," "A" should be used in designating color; and these letters should be stamped on top of each can. Extracted honey for shipping must be packed in new substantial cases of proper size.

STRAINED HONEY.

This must be well ripened, weighing not less than 12 pounds per gallon. It must be well strained; and, if packed in five-gallon cans, each can shall contain sixty pounds. The top of each five-gallon can shall be stamped and labeled, "Net weight not less than 60 lbs." Bright clean cans that previously contained honey may be used for strained honey.

Honey not permitted in shipping grades.

Extracted honey packed in second-hand cans.

Unripe or fermenting honey weighing less than 12 lbs. per gallon.

Honey contaminated by excessive use of smoke.

Honey contaminated by honey-dew.

Honey not properly strained.

NATIONAL BEEKEEPERS' ASSOCIATION GRADING RULES

Adopted at Cincinnati, Feb. 1913

Sections of comb honey are to be graded: First, as to finish; second, as to color of honey; and third, as to weight. The sections of honey in any given case are to be so nearly alike in these three respects that any section shall be representative of the contents of the case.

I. FINISH.

1. Extra Fancy.—Sections to be evenly filled, combs firmly attached to the four sides, the sections to be free from propolis or other pronounced stain, combs and cappings white, and not more than six unsealed cells on either side.

2. Fancy.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain, comb and cappings white to slightly off color, and not more than six unsealed cells on either side, exclusive of the outside row.

3. No. 1.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain, comb and cappings white to slightly off color, and not more than 40 unsealed cells, exclusive of the outside row.

4. No. 2.—Combs not projecting beyond the box, attached to the sides not less than two-thirds of the way around, and not more than 60 unsealed cells exclusive of the row adjacent to the box.

II. COLOR.

On the basis of color of the honey, comb honey is to be classified as: first, white; second, light amber; third, amber; and fourth, dark.

III. WEIGHT.

1. Heavy.—No section designated as heavy to weigh less than fourteen ounces.

2. Medium.—No section designated as medium to weigh less than twelve ounces.

3. Light.—No section designated as light to weigh less than ten ounces.

In describing honey three words or symbols are to be used, the first being descriptive of the finish, the second of color, and the third of weight. As for example: Fancy, white, heavy (F-W-H); No. 1, amber, medium (1-A-M), etc. In this way any of the possible combinations of finish, color, and weight can be briefly described.

CULL HONEY.

Cull honey shall consist of the following: Honey packed in soiled second-hand cases or that in badly stained or propolized sections; sections containing pollen, honey-dew honey, honey showing signs of granulation, poorly ripened, sour, or "weeping" honey; sections with comb projecting beyond the box or well attached to the box less than two-thirds the distance around its inner surface; sections with more than 60 unsealed cells, exclusive of the row adjacent to the box; leaking, injured, or patched-up sections; sections weighing less than ten ounces.

Watchful Waiting Causes You to Get Left

So Buy your Bee Supplies Now.

Promises to be a Honey year. Ship on day of receipt of order.

Lewis' Beeware—finest in the world.

Send for our 1916 Catalogue.

We do Beeswax rendering. Ship us your old Combs and Cappings. Write for prices.

THE FRED W. MUTH CO.

204 Walnut St.

THE BUSY BEE MEN.

CINCINNATI, O.

Queens! Queens! Queens!

We will make a specialty of shipping Queens, Nuclei, and Full Colonies from Florida during the present month. We are breeding from queens that produced a surplus of 300 pounds per colony in a 24-day honey-flow in Florida, and that are unexcelled for prolificness, gentleness, and honey-gathering.

When you order queens from us you get QUALITY, PURITY, AND HONEY-GATHERERS. We can fill your orders from our famous Honey-gathering Strain for Queens, Nuclei, and Full Colonies promptly, and guarantee safe delivery and entire satisfaction to you in every respect. Our aim is to give you the best stock on the market at the time you want it. Write for special price on orders of 50 or more. We ask you to give us a trial and let us prove to you that our stock is unexcelled by anything on the market.

Island-bred Italian Queens

	1	6	12
Untested	\$1.50	\$ 7.50	\$12.00
Tested	2.00	10.50	18.00
Select Tested	3.00	15.00	24.00
Tested Breeding Queens,	\$5.00 and \$10.00 each		

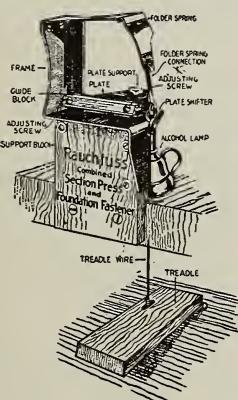
Prices on Nuclei and Full Colonies without Queens

1-frame Nucleus, \$2.00	5-frame Nuclei, \$5.00
2-frame Nuclei, \$3.00	8-frame Colony, \$8.50
3-frame Nuclei, \$4.00	10-frame Colony, \$10.00

Address all Communications to

THE J. E. MARCHANT BEE AND HONEY COMPANY, CANTON, OHIO

Make More Profit by Reducing Cost of Production



Comb-honey producers can put up their sections complete in less than half the time with a RAUCHFUSS COMBINED SECTION-PRESS AND FOUNDATION-FASTENER. Now used by hundreds of Western beekeepers who would not think to be without it any more.

IT IS GUARANTEED TO DO MORE AND BETTER WORK THAN ANY OTHER DEVICE ON THE MARKET. Your money back if not entirely satisfactory. Made for 4 1/4 x 4 1/4 and also for 4 x 5 sections.

PRICE \$3.00, COMPLETE WITH LAMP AND TREADLE, DELIVERED POSTPAID ANYWHERE IN THE UNITED STATES. Write for 68-page illustrated catalog of the best Bee-supplies made.

THE COLORADO HONEY-PRODUCERS' ASSOCIATION,
1424 Market Street
Denver, Colorado

WARDELL STRAIN OF ITALIANS

Descendents from the Famous Root \$200 Queen

I was head queen breeder for The A. I. Root Co. for a number of years, and during that time I originated the famous \$200 ROOT BREEDER whose stock has gone the world around. These bees for GENTLENESS, GENERAL VIGOR, and HONEY-GATHERING qualities have ESTABLISHED A REPUTATION. I have been for years developing and perfecting this same strain. While my prices may be higher than some others, my queens are cheap in comparison with their value.

Untested	during June, \$1.50; in July, August, and September, \$1.00
Select Untested	1.75
Tested	" 2.50 " "
Select Tested	" 3.50 " "

Prompt delivery assured.
Address all orders to F. J. Wardell, Uhrichsville, Ohio

Gleanings in Bee Culture

E. R. ROOT
Editor

A. I. ROOT
Editor Home Dept.

H. H. ROOT
Managing Editor

J. T. CALVERT
Business Mgr.

Department Editors:—Dr. C. C. Miller, J. E. Crane, Louis H. Scholl, G. M. Doolittle, Wesley Foster, J. L. Byer, P. C. Chadwick, E. G. Baldwin, Grace Allen.

\$1.00 per year. When paid in advance: 2 years, \$1.50; 3 years, \$2.00; 5 years, \$3.00.

POSTAGE IS PREPAID by the publishers for all subscriptions in the United States, Hawaiian Islands, Philippine Islands, Guam, Porto Rico, Tutuila, Samoa, Shanghai, Canal Zone, Cuba, and Mexico. Canadian postage is 30c per year. For all other countries in the Postal Union add 60c per year postage.

CHANGE OF ADDRESS. When a change of address is ordered, both the new and the old must be given. The notice should be sent two weeks before the change is to take effect.

DISCONTINUANCES. Notice is given just before expiration. Subscribers are urged, if unable to make payment at once after expiration, to notify us when they can do so. Any one wishing his subscription discontinued should so advise us upon receipt of the expiration notice; otherwise it will be assumed that he wishes GLEANINGS continued and will pay for it soon.

HOW TO REMIT. Remittances should be made by draft on New York, express-order or money-order, payable to the order of The A. I. Root Co., Medina, Ohio. Currency should be sent by registered letter.

AGENTS. Representatives are wanted in every city and town in the country. A liberal commission will be paid to such as engage with us. References required.

FOREIGN SUBSCRIPTION AGENTS.

Foreign subscribers can save time and annoyance by placing their orders for GLEANINGS with any of the following authorized agents at the prices shown:

PARIS, FRANCE.—E. Bondonneau, 154 Avenue Emile Zola.

Per year, postpaid, 8 francs.

GOODNA, QUEENSLAND.—H. L. Jones. Any Australian subscriber can order of Mr. Jones. *Per year, postpaid, 6/7 p.*

DUNEDIN, NEW ZEALAND.—Alliance Box Co., 24 Castle St. *Per year, postpaid, 6/7 p.*

Contents for July 1, 1916

EDITORIAL	517	Advertising, Inexpensive	533, 540, 545
Demand for Queens	517	Bees in Movies	534
Advertising, Free, of Honey	517, 518	Salesman, Silent	535
Introduction, Difficult	517	Honey Cooking at County Fair	536
Bees Exonerated	518	National Honey Week	536
Clover, Prospects of	518	Honey, Appearance of	537
STRAY STRAWS	521	Honey in Glass Jars	538, 545
Pollen, Color of	521	Honey Preserves	539
Clipping Queens' Wings	521	Teachers to Inspire Boys	541
Queen, Time to Develop	521	Bonney's Advertising Schemes	543
DIXIE BEE	522	Exhibit that Paid	546
BEEKEEPING IN CALIFORNIA	523	How Bee Feeds the World	547
Paint, Cold-water, for Hives	523	HEADS OF GRAIN	549
Honey Gathered Five Miles	523	Bees Creatures of Habit	548
Plants, Various Names of	524	Queens, Mismated	548
FLORIDA SUNSHINE	524	Moldy Combs, Use for	549
Honey Method of Introducing	525	Transferring from Log	549
NOTES FROM CANADA	526	Eggs, Several in a Cell	549
Honey-pails, Advanced in Price	526	Hive-indicator	550
Clover in Canada	526	Requeening for Paralysis	550
Bees, Trouble in Mining	526	Hive-bottom, Double	551
BEEKEEPING AMONG THE ROCKIES	527	Bees Cleaning up Foul Brood	551
Picnic at Fort Collins	527	Honey Granulating in Groceries	552
CONVERSATIONS WITH DOOLITTLE	528	OUR HOMES	553
Feeding Back to Finish Sections	528	HIGH-PRESSURE GARDENING	557
Honey as a Side Line	529	Real-estate Speculators	559
Honey Display, Connecticut	530	POULTRY DEPARTMENT	561

HONEY MARKETS

The prices listed below are intended to represent, as nearly as possible, the average market prices at which honey and beeswax are selling at the time of the report in the city mentioned. Unless otherwise stated, this is the price at which sales are being made by commission merchants or by producers direct to the retail merchants. When sales are made by commission merchants the usual commission (from five to ten per cent), cartage, and freight will be deducted; and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage and other charges are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

NEW YORK.—The old crop of comb honey is now pretty well cleaned up with the exception of some off quality—odds and ends for which there is practically no demand. New crop from the South is now beginning to arrive, and No. 1 white stock is selling around 14 cts., in some instances 15, while off grades sell accordingly—lower as to quality. We have nothing new to report as to the market on extracted. There is a fair demand, at unchanged prices, with liberal supplies. Beeswax is steady at 30 to 31.

New York, June 19. HILDRETH & SEGELKEN.

ST. LOUIS.—The demand for honey in this market has been very light the past two or three weeks, especially comb honey. No new honey has arrived here. We are selling in a jobbing way No. 1 bright amber comb honey at \$2.75 to \$3.00 per case; No. 2 from \$2.50 to \$2.75 per case, under grades less. Southern amber extracted honey, in barrels from 6 to 6½; in 60-lb. cans, from 6½ to 7½; dark, ½ to 1 ct. per lb. less. Beeswax is quoted at 30 for prime; impure and inferior, less.

R. HARTMANN PRODUCE CO.

St. Louis, June 21.

KANSAS CITY.—The honey market remains about the same. There is very little old honey left on this market, and so far this season we have seen no new honey. We believe that the new honey, when it comes in, will sell at about \$3.50 to \$3.75 per case. Extracted honey is cleaning up very rapidly; and while prices are no higher, there is a considerably firmer feeling to the market. Prices range from 6 cents a pound for dark amber to 7 for lighter honey. There is no white extracted on this market.

C. C. CLEMONS PRODUCE CO.

Kansas City, June 17.

ZANESVILLE.—There is no particular change in the honey situation here, the demand being about normal for the season, and prices practically unaltered. In a small way best white comb brings around \$4.00 a case. Some western sells for \$3.75. Jobbers are allowed usual trade discount. Extracted is in limited demand at prices as heretofore, 9 to 10 cts. for best white; darker grades correspondingly less. For good clean beeswax we pay producers 28 cts. cash, 30 trade, and invite shipments on this basis.

Zanesville, June 17.

E. W. PEIRCE.

DENVER.—We have nothing to offer in comb honey at the present time. We are selling extracted honey in a jobbing way as follows: White, 8½ to 8¾ cts. per lb.; light amber, 8 to 8¼ per lb., and amber, 7 to 8 per lb. We pay 26 cts. per lb. in cash and 28 in trade for clean, average yellow beeswax delivered here.

THE COLORADO HONEY-PRODUCERS' ASSOCIATION,
Denver, June 19. F. Rauchfuss, Mgr.

ITALIAN THREE-BAND BEES

For the rest of the season I recommend my three-frame nuclei for building colonies. Prices the same as in June 1st issue. Cheap as I can furnish northern bees.

E. A. LEFFINGWELL, ALLEN, MICHIGAN

BANKING BY MAIL AT 4%

Do Not Take Risks

Deposit your money in this bank where you will be sure it is in absolute safety. Our conservative policy, honorable management, large capital and surplus, and strict state supervision assure security for every dollar.

Moreover, you receive four per cent interest, compounded twice a year.

Deposits may be sent by mail in the shape of check, draft, money order or the currency by registered mail.

One dollar opens an account.

THE SAVINGS DEPOSIT BANK^{CO.} MEDINA, OHIO

A.T. SPITZER, Pres.
E.R. ROOT, Vice-Pres.
E.B. SPITZER, Cashier.

ASSETS OVER ONE MILLION DOLLARS

3 Garden Tools in 1 The BARKER Weeder, Mulcher and Cultivator

The only garden tool that successfully, in one operation, kills weeds, and forms a complete soil mulch to hold moisture. "Best Weed Killer Ever Used." A boy with a Barker beats ten men with hoes. Has shovels for deeper cultivation. Self adjusting. Costs little. Write for illustrated folder and special Factory-to-User offer.

Barker Mfg. Co.
Box 117 David City, Nebr.



Quality Quickly

There's the reason why we maintain two western branches and warehouses. The convenience of lower freight and prompter shipments, coupled with the excellence of our bee supplies, have been realized by western honey-producers.

It is unnecessary to talk here about the type of supplies carried in stock at these two distributing points.

The Proof of Quality

Our exhibit at the Panama-California Exposition was awarded a grand prize and a gold medal.

This is California's Decision

The A. I. Root Co., Los Angeles, Cal.

Geo. L. Emerson, Manager, 948 East Second St.

Where the Weed foundation-machines are making perfect non-sag foundation. Send us your wax to be made into foundation. We buy wax too.

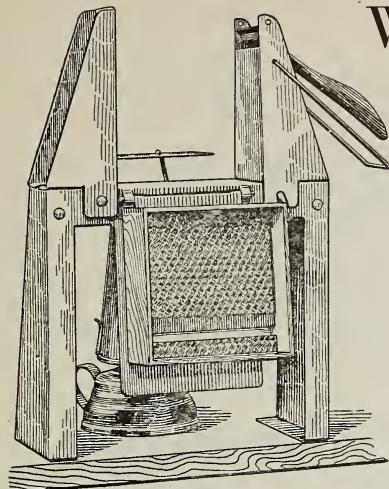
Root Redwood Hives.—A sample hive body with cover and bottom KD, \$1.00. Quantity prices on application. We cut hive parts to order.

New machinery for manufacturing hives and frames has been added. Extractors are now shipped "knocked-down" from the factory at Medina.

The A. I. Root Co., San Francisco, Cal.

245 Mission Street

We have moved. Office and warehouse in the same building.
Write for catalog and send us your list of wants.



Woodman's Section-fixer

A combined section-press and foundation-fastener of pressed-steel construction. It folds the section, and puts in top and bottom starters at one handling, saving a great amount of labor. Hundreds of them in use. The sale this year has increased wonderfully, and they give perfect satisfaction in every case when properly operated. Dadant & Sons say, "The sale on Woodman section-fixers now far exceeds all others."

With top and bottom starters the comb is attached to all four sides, a requirement to grade fancy. Increase the value of your crop this season by this method. The best and most successful producers such as Dr. Miller use top and bottom starters. Their honey would ship across the continent without breaking down, even if only half completed.

Price \$2.50 without lamp. With lamp, \$2.75.

Weight, 5 lbs.; postage extra.

Adjustable to any standard size of section. Send for special circular with large illustrations.

A. G. Woodman Co.
Grand Rapids, Mich.

For New England

Beekeepers, we have everything you need in the way of supplies. Remember we are in the shipping center of New England. Let me send you a new catalog.

H. H. Jepson, 182 Friend St., Boston, Mass.

PENNSYLVANIA BEEKEEPERS

Our 1916 catalogs now out. Postal will bring you one. Root's goods at Root's prices. Prompt shipment.

E. M. Dunkel, Osceola Mills, Pa.

If you need supplies or bees shipped promptly write us. Our stock is complete, no delays. Chaff and single-walled hives. Bees by the pound, nucleus, or full colonies. Untested queens, \$1.00; tested, \$1.25. Catalog free.

I. J. STRINGHAM, 105 PARK PLACE, N. Y.
Apiaries, Glen Cove, L. I.

4 MONTHS FOR 10¢

Trial Subscription To Fruit and Garden Paper

Tells about planting, pruning, spraying and selling fruit and garden truck.

Ask Us Your Hard Questions.

We conduct this department for the special benefit of our subscribers. Experts answer all questions by mail and through the columns of the magazine.

Fruitman and Gardener, 106 Main St. Mt. Vernon, Ia.

LOS ANGELES HONEY CO.
633 Central Bldg. . . . Los Angeles, Cal.

Buyers and Sellers
of Honey and Wax

Write Us for Prices when in the Market

Established 1885



A great honey crop is in sight for 1916. If you are needing hives, sections, foundation, and other bee supplies, send at once for our large catalog, full of information. We carry a good assortment of supplies for prompt shipment. Beeswax wanted for supplies or cash.

John Nebel & Son Supply Co., High Hill, Mo.
Montgomery County

For Quick Shipments
Write or Telegraph
Superior Honey Co.

Ogden, Utah
Branch at Idaho Falls, Idaho

Beehives, honey cans, and "everything in bee supplies." Manufacturers of "Superior" foundation (Weed process).

PATENTS Practice in Patent Office and Courts
Patent Counsel of The A. I. Root Co.

Chas. J. Williamson, McLachlan Building
WASHINGTON, D. C.

Your Honey Crop
Depends on Your Interest in Bees

The greater the interest, the greater the crop. Increase your interest by studying what happens in the egg. Here the individual bee begins life.

The Embryology of the Honey Bee
By Dr. Jas. A. Nelson

Price \$2.00 prepaid
Clubbed with "Gleanings" one year, \$2.75

THE A. I. ROOT COMPANY
Address the Medina Office

Preparedness!

Your success this season, Mr. Beekeeper, depends on being ready. You need to buy your supplies now.

Root's Goods mean Real Preparedness.

We sell them in Michigan. Send for catalog. Beeswax wanted—

M. H. Hunt & Son, 510 Cedar St. N., Lansing, Mich.

“If Goods are Wanted Quick Send to Indianapolis”

Indications just now are very favorable for a good season; but we are, of course, at the mercy of the weather conditions. A good season means an excessive demand for the line which we handle, and we mention this, urging our friends to place their orders before the goods are really needed, that none may be disappointed.

We carry Root's goods and sell at their prices; and considering this as a shipping-point, we can save you time and freight by having your orders come to this house.

If you are new to the business we should like to explain that Root's goods are the very best that can be produced. If you have been using THE ROOT LINE you will recognize the truthfulness of the above and will want more of the same goods.

Promptness in filling orders is the motto here. We also give small orders the same careful attention that are given to large orders.

Let us have the pleasure of mailing you our free catalog.

Walter S. Pouder, Indianapolis, Ind.
873 Massachusetts Avenue

NOW IS THE TIME

To order your supplies, and thus
have every thing in readiness for
the spring.

We carry a full line of Root's Goods at all times, and are always prepared to fill any and all orders on short notice.

Hives, supers, frames, sections, comb foundation, section-presses, foundation-fasteners, queen-excluders, queen and drone traps, swarm-catchers, feeders, honey and wax extractors, capping-melters, honey-knives, honey-tanks, honey-packages, shipping-cases, bee-escapes, bee-veils, bee-gloves, bee-brushes, smokers—in short, everything the beekeeper requires for the proper conduct of an apiary.

C. H. W. Weber & Company, Cincinnati, O.

2146 Central Avenue

What do you know about that

We are getting an almost innumerable number of orders to go by parcel post --- a great thing for beekeepers on rural delivery. BUT REMEMBER to always include enough in the amount sent to cover the postage required. . . .

For instance, if you are within 150 miles of Syracuse, and need 500 sections, we can mail them for 41c; 250 sections for 21c, and 100 sections for 11c. Foundation in 5-lb. lots, can be mailed for 11c; 2 lbs. for 7c; 1 lb. for 6c. Always figure postage more than foundation weighs. Rates inside of 150 miles once the total weight plus 4.

F. A. SALISBURY, Syracuse, New York
1631 West Genesee St.

Nominated by Acclamation Lewis Sections

The kind that does not break in folding

Beekeepers everywhere, no matter what their preference may be for hives or special apparatus, agree that when it comes to sections that

There are no sections like Lewis Sections!

WHY IS THIS TRUE? BECAUSE LEWIS SECTIONS are made of Wisconsin basswood—the best material for sections—out of carefully selected white stock. The V groove which allows the sections to fold is scientifically made. LEWIS SECTIONS are polished on both sides and are neatly and accurately packed in a tight wooden box, insuring delivery in good order.

At the same price you pay for other standard makes of sections you get all of the above. The making of Lewis Sections has been under the supervision of a Lewis section expert who "has been at it" for over thirty years. No wonder Lewis Sections are perfect. One of our customers tells us that he has put up (folded) thirty thousand Lewis Sections in a season, and has not found one section in the whole lot that was not perfect? Can we mention any more convincing evidence of quality? Can you say the same of even five hundred of any other make?

INSIST ON LEWIS SECTIONS. LOOK FOR THE BEEWARE BRAND.

G. B. Lewis Company, Watertown, Wisconsin

Catalog on request giving nearest distributor.

DO YOU WANT Your Bee Supplies Shipped Promptly?

We carry from four to six carloads of the finest BEEWARE on hand at all times, and can fill your orders without delay. . . . BEE-HIVES, SECTIONS, Shipping-cases, Tin Cans, and all other Bee Supplies; also

Dadant's Foundation

by return freight, mail, or express

DADANT & SONS, Hamilton, Ill. Dear Sirs:—The box of foundation arrived a few days ago in fine condition. I have kept bees for over thirty years, and have purchased foundation from many firms, and must say that your foundation is the nicest that I have ever used, and I wish to thank you for the prompt shipment and large amount of wax you secured for me.

A. W. DARBY, Albion, Vt., May 3, 1916.

We have forty years' experience and thousands of satisfied customers. Are you one of them?

Dadant & Sons, Hamilton, Illinois

GLEANINGS IN BEE CULTURE

Published by The A. I. Root Co., Medina, Ohio.

E. R. ROOT, Editor
A. I. ROOT, Editor Home Department
Entered at the Postoffice, Medina, Ohio, as second-class matter.

H. H. ROOT, Managing Editor
J. T. CALVERT, Business Manager

VOL. XLIV.

JULY 1, 1916

NO. 13

EDITORIAL

The Demand for Bees and Queens

THE demand for queens this year has been the greatest ever known. Large numbers of queen-breeders — more so than usual — are swamped with orders. The demand for bees also, especially in combless packages, has been very great; and the bee-supply manufacturers, so far as we know, have had a harvest of orders. The idea of preparedness seems to be in the minds of beekeepers everywhere, because there never was a year when there was a prospect of a larger yield of honey. Notwithstanding all this, there may yet be an entire failure of clover.

Stings that Leave no Sore Spots

THE sage of Marengo is always bright and breezy; and he has a way of differing sharply with an opponent that does not leave a sting nor a sore spot. Witness, for example, his rejoinder to R. F. Holtermann in Straus for this issue.

The editor of GLEANINGS has had a good many "seraps" with Dr. Miller, both in private and in public. Some of his private letters are as good as a circus. We rather enjoy drawing his fire; because (to change the figure) his is the kind of fire that doesn't scorch. We hope, therefore, that Mr. Holtermann will draw some more fire. Go after him, Mr. H.; but look out that you do not get the worst of it, even if he is 86.

Getting Free Advertising in Local Newspapers

DR. A. J. BONNEY, in this issue, has an article which will well bear careful reading. The newspapers are looking for good "dope" to publish. Dr. Bonney has prepared a series of striking paragraphs that tell the truth about bees and honey. If the beekeeper will seek to give his local newspapers paragraphs like these he will bring his business before the public in a way that will not cost him a single penny. This is the year to advertise honey if there ever was such a year. If the clover crop is go-

ing to be large, advertise; if it is going to be short, advertise anyway, and make the price in keeping with other food products. Everything is going to be up because it is war times if there ever were war times. All the great nations of the world are now having big and little wars, and at this writing it looks as if our dear Uncle Samuel would get involved with his neighbor on the south.

The Meanest Colony to Introduce a Laying Queen to

A COLONY that has been queenless for a week or ten days, has built cells, and possibly hatched a virgin, is about the meanest proposition to introduce a queen to that we have. If the virgin is not lost in mating, the fact cannot be known definitely until a frame of brood is put in the hive, and cells started. An expert can tell by the behavior of the bees. If a laying queen is to be introduced to a colony that may or may not have a virgin, she will not stand much show if the virgin is present; and if the virgin is a young one, or inside of a cell, the bees may take things into their own hands, and kill the laying queen. About all one can do is to give such colony a cell, if they do not already have one, and always a frame of brood if it can be spared from some other colony. The beginner should understand there is a large amount of risk in trying to introduce a laying queen to a colony that has been queenless for a week or ten days.

Beekeeper-Berrygrower, Here is Your Chance

THERE are many inexpensive ways of calling attention to honey. A number of very good suggestions are given in this special number on the subject. Here is another plan which we feel sure is practical and well worth trying. Mr. Frank Rauchfuss, of Denver, gives the details in the following letter:

We are herewith sending you a little slip, $2\frac{1}{2} \times 6$ inches. The plan for using this is to

get beekeepers who are also berry-growers to insert one of these in the bottom of each box of berries they pack, so the housewife will come across it when she empties the box and can try out the suggestion of using honey in place of sugar for sweetening berries.

HAVE YOU EVER SWEETENED BERRIES
WITH HONEY?
IF YOU HAVE NOT, TRY IT TODAY.
IT IS DELICIOUS.

We hope that this will be the means of inducing some people to use a mild-flavored honey for the above said purpose. Furthermore, we expect the beekeepers who are berry-growers to get the other berry-growers to utilize these strips also.

It is surprising how few people use honey on strawberries, for instance. We prefer it to sugar on any kind of berries, however, for it blends so well with the fruit-juices that the flavor is far better than that of berries sweetened with granulated sugar.

Bees Exonerated

A GOOD many beekeepers are bothered every year by berry and grape growers complaining about the bees, and insisting that the bees "bite" the fruit and suck the juices. The trouble is that people who make such complaints do not read bee-journals and do not know that what they are claiming is an impossibility.

Our attention has just been called to a paragraph in the Indianapolis *News*, taken from the *Scientific American*. We hope that this paragraph may receive considerable publicity over the country. We fear, however, that it will not be as widely copied as the some sensational claim were made against our friends the bees. Newspapers, as a rule, are never quite so happy as when they are showing up somebody or something. Our hats are off to the Indianapolis *News* for having the good judgment to copy something really worth while.

An agricultural society of Florence, Italy, has recently carried out a thoro investigation of the alleged injury of fruit by bees, and has completely exonerated the latter. Bees are unable to perforate the skin of fruit, and it is only incidentally that they suck the juices of fruits injured by other natural causes. The damage sometimes attributed to these insects is due to poultry, wild birds, wind and hail, and even more frequently to hornets, wasps, vine-moths, and other insects. Instead of being harmful to orchards and vineyards, bees perform the useful service of effecting the cross-pollination of flowers, and hence the setting of fruit, as well as the desiccation of damaged fruits (especially grapes) by sucking the

juice and pulp and thus preventing fermentation and rot extending to sound individuals. The orchards and vineyards frequented by bees give the most constant crops.—*Scientific American*.

We suggest that beekeepers get their local papers to publish this clipping, giving credit not to GLEANINGS IN BEE CULTURE, but to the *Scientific American*, in order that the reader may not get the mistaken idea that he is reading a biased statement. There is no time when this clipping could be used so effectively as right now.

Clover Prospects Weighed in the Balance ; On a Tiptop of Expectancy

ACCORDING to all reports from all over the country, clover—white, alsike, red, and sweet—was never more abundant than this year. The fields are white with it. We have gone over portions of northern Ohio in an automobile—localities that never showed white clover before, and found they are showing quite a large profusion of it. Some fields look as if they were covered with snow.

But the all-absorbing question with the beekeeper is, "Will this clover yield honey? and how much?"

Bees in our part of the country are barely making a living and rearing brood. Colonies have to be watched very carefully to see that they do not starve. The conditions are much the same as last year—rain, rain, rain, and chilly weather, interspersed now and then with sunshine and a little warm weather. But no sooner does the nectar begin to come in than it rains again.

Last year there was an enormous crop of clover honey in spite of these rains; but it came a month or six weeks late. History may repeat itself this year. If settled warm weather should come on, there would probably be a clover flow the like of which was never seen before.

But why does not clover yield on occasional warm days? One of our neighbors, Adam Leister, a local beekeeper, and a splendid farmer, offers this explanation: Rains and cool weather have made a rank growth of the clover plants, including the blossoms; in fact, all kinds of grasses and clovers are growing so rank that lawns have to be mowed almost ev'ry other day. Well, this rank growth has absorbed all the strength of the clovers so there is nothing left to develop nectar in the blossoms. It used to be an axiom, and it is a pretty good one today, that, when farmers begin to complain of dronth, honey begins to yield. In other words, it is impossible to grow a

rank growth of clovers and get nectar at the same time. As soon as the rain stops and the weather turns hot, the growth of the clover plant stops and nectar begins to yield.

The United States weather maps, one of which reaches us every day, show that this rainy weather is practically universal throughout the clover regions of the United States. It spreads from the Dakotas to Maine, from Maine to the southern states, and from there to the Rockies. Texas has had an unusual amount of wet weather for that state, and it has certainly been a honey year for the Lone Star State.

If this cool rainy weather should continue another month there may not be much if any clover honey; but the probabilities are that it will change soon; and when it does, if not too late, there will doubtless be a big crop of clover honey throughout the United States. We have the plants this year—thousands of acres of them—and we have the moisture in the soil and in the air; and now the thing we earnestly hope for is a good old-fashioned drouth, for no drouth now could stop the flow of clover nectar.

Our Rocky Mountain beekeepers probably will not feel so very badly if the cold weather of the East continues; for their crop, on account of snow in the mountains, is reasonably assured. California will have more honey than early indications seemed to show.

The price of honey this coming season will depend somewhat on how much clover honey is secured in the eastern states. The whole beekeeping world, on account of this, stands on tiptoe awaiting the events of the next few days.

Later.—Sunshine and a clear sky have come. Will it continue? We are "tiptoed" clear up high.

Beekeepers are requested to send in post-al-card reports.

Some Pointers on Advertising Honey; Shall a Producer Retail His Own Honey?

It is apparently easier for the average individual to produce an article than to let the prospective purchaser know he has something he wants to buy at a profit to the producer.

One reason for advertising any merchandise is to help the prospective purchaser realize that we have the particular article he wants. The various methods outlined in this issue in the articles on honey advertising which have been effective in increasing sales are well worth careful study. How-

ever, the plan which is best in one locality may not be best for another.

The local beekeeper has the advantage over outside advertisers, as he knows the peculiarities of the people of his own locality, and can also appeal to local pride. The most important factor is to have an article *worth* advertising, and at the same time offer it for sale in a form to meet local needs best.

We have long been of the opinion that beekeepers who specialized on the larger packages, five-pound pails and up, were making the most money, and they are certainly creating a larger demand. The grocer will handle the larger packages when the beekeeper is back of the goods, as suggested by Mr. Frank Kittinger, this issue, page 533. It costs practically as much to sell the 10-cent size as the \$1.00 package; but mark this: *To enjoy the co-operation of your grocer you must protect him by not underselling.*

All advertising should be of a character to inspire confidence of consumer, also the dealer, not only in the goods advertised, but in the man back of the goods. Your advertising is capitalizing your character.

Exhibits as described by Mr. Burton N. Gates and several others are one of the best means of publicity and one of the cheapest. The opportunity for personal contact can not be overestimated, and we consider it one of the cheapest means of effective advertising. Articles and statements tending to create interest in bees in general, interesting facts suggesting the honey industry, and the publishing of honey cooking recipes gradually build up public sentiment in favor of honey, creating the desire that results in the purchase.

If more beekeepers displayed attractive signs it would not only help their business but the industry in general. Billboard advertising in cities is expensive; but you have the opportunity at no expense, aside from the sign; and if you live on a main road invest in the best sign you can afford. Utilizing your location in this way will make you slick up a little, improving general appearances; and Ruth C. Gifford's suggestions, page 537, regarding appearances can not be overlooked, and will apply to your plant as well as the goods you sell.

The idea suggested by John R. Pomeroy, page 542, and others, would be a long step in the right direction, and in our opinion beekeepers would be wise in adopting a uniform sticker, EAT HONEY.

The beekeeper has another problem to solve: In these days of high cost of labor, the increased cost of doing business must

be considered. GLEANINGS has always advocated development of the home market; but not every one is in a position to do this. Some would be losing money to attempt to sell locally. One expressed the situation in this way: I prefer to keep more bees, produce more honey, sell to the large buyer, using the time required to sell my crop locally in getting ready for next season.

These are personal problems to be decided before the question of local advertising is considered. If your decision places you in this class, eliminating local advertising, we believe the real beekeeper's fraternity spirit will keep you alive to every opportunity to scatter the doctrine, EAT HONEY, that, if persisted in, will gradually erase honey from the luxury column and place it where it belongs—among the staples.

Keep everlastingly at it.

Our Advertising Number

WHEN we were first asked to get out a special number on the subject of advertising honey we wondered whether it would be possible to secure enough good live material. We are rather proud of the array of material that we are enabled to present in this number.

In *The Independent* for November 8, 1915, appeared an editorial, "The Advertiser as a Public Benefactor." Those who have access to this particular copy would do well to look it up and read the editorial from beginning to end. It is worth while. We wish that we could take the space to quote it all. We quote herewith only the first and the last two paragraphs.

A great deal is said about the value of advertising to the salesman, but very little about its value to the buyer. Yet it is obvious upon reflection that such an expensive piece of machinery as the modern system of advertising could not be maintained unless its benefits were mutual. It takes two to make a bargain, and this new method of bargaining, this new channel of communication between producer and consumer, must be giving satisfaction to both, altho the said party of the second part rarely realizes how greatly to his advantage it is. The common saying, "It pays to advertise," has a wider meaning than it is generally credited with. Advertising, on the whole, pays all those concerned. Advertising pays the advertiser in case the money is wisely expended. Advertising pays the periodical, we are happy to say. Advertising pays the purchaser, for it puts him in the proud position of being sought instead of the seeker.

The use of prepared cereal foods is a veritable revolution in the dietary of the nation. Say five million dollars has been

spent in accomplishing it, could the result have been attained as quickly or more cheaply by any other means? How long without advertising would it have taken to develop and make known to everybody the automobile and the hand camera, the player-piano and the phonograph, the office utilities, the toilet accessories, and all the thousand "Yankee notions" that make our life so pleasant and complete?

No: advertising is not "one of the economic wastes of competition," as it is sometimes called. It is on the whole well worth what it costs to the community, and it is hard to see how the world can ever get along without it. Even if competition be some time eliminated, advertising of some kind will have to be kept up unless the race is to stagnate. Progress consists in the creation of new wants; happiness, in the satisfaction of them. So both progress and happiness are facilitated by the efforts of the advertiser. He is not a producer; no, and neither is lubricating oil a fuel for the engine, but it is quite as indispensable as coal. The advertiser should not be regarded as a parasite upon industry, as an extravagance to be some time eliminated in the interests of economy of distribution. He is more likely to be regarded in the future as a person of greater importance than at present, for the training of the public in new habits and the introduction of new utilities will become more necessary as science and invention become more active. When his real value to the community as an accelerator of civilization becomes recognized, historians will rank the discovery of advertising as an epoch-making event and not less important than the discovery of America.

The reason that so many people do not use honey is that they never think of it. They must be made to think of it before they will take the trouble to buy it. Conservative but continuous advertising in local papers is one of the best forms of keeping honey before the people. There are many other inexpensive ways of securing publicity for honey. As several of the writers in this number point out, a neat sign in front of an apiary on a well-traveled road calling attention to the fact that honey may be purchased within gives surprising results. Between Medina and Cleveland, on the main road, lives a beekeeper who hit upon the ingenious plan of locating a hive in a conspicuous position by the roadside. The hive was enameled white, and on each side was painted the one word "Honey" in a brilliant cherry red. The result of this silent salesman was gratifying. The honey on hand was sold in short order, and at a good price. The picture on our cover for this issue shows the hive on the bank where it could be seen for nearly half a mile each way.

Dr. C. C. Miller

STRAY STRAWS

Marengo, Ill.



G. M. DOOLITTLE is just right in his advocacy of drawn comb in sections, when rightly used, p. 320. It might be added that in years of failure I've had such bait combs filled thruout the apiary, while not a drop was stored in sections filled with foundation, in the same super.

WHEN putting foundation in brood-frames the first time, the wedge and saw-knives are fine; but if ever you want to put in foundation the second time the grooves are a nuisance. Perhaps the best thing then is to fill them with wax or paraffin. [It is not often that comb foundation is put in such frames the second time.—ED.]

SPEAKING of white clover, John H. Lovell says, p. 477, "Honeybees also often gather loads of greenish pollen, altho this is not abundant." If that came from almost any other authority, I should say, "You've been careless in observing, my friend." As it is, I wonder if Illinois is not different from New England. Here I don't think Prof. Lovell would call it greenish, but brown; and it is stored in greater abundance than any other pollen, altho the pellets brought in are never so very large. [It is doubtful whether the color of pollen from white clover in Illinois is different from that of Maine. The matter in question has not been printed in the book, and we are investigating.—ED.]

R. F. HOLTERMANN, I'm not on speaking terms with any man that clips both wings without any better reason than you give, p. 491. You say there is a better way to mark a queen's age—on a top-bar. Isn't it much better still to have it in a book? But what has that to do with the question in hand? I never kept track of a queen's age by clipping, and I think very few do. The only reason I find for your clipping both wings is that when only one side is clipped the queen appears "to look very awkward—like a cripple." If a shark should bite off one of my legs, I don't believe I'd say, "Please bite off the other leg, Mr. Shark, so I won't look so much like a cripple." If looks is the only thing, why not clip only the larger wing on one side? Then at a hasty glance you can't tell her from an unclipped queen.

WHATEVER may be best for the beekeeper on a large scale, for the man with only a few colonies the best thing is to send away his combs to be melted up by those who

make a business of melting combs—so much simpler and easier, and in most cases cheaper. [Sending combs across the country to be melted up by one who makes a business of doing such work is fraught with some danger. We prefer that our customers do not send us such combs on account of possible germs of foul brood. If there is anything that scares us it is to see our bees working on a mess of old combs whose history is unknown.]

It is, nevertheless, true that the average beekeeper will not get as much wax out of his old combs as some one who is prepared to do the work. But if he will figure in that he, not "Jones, pays the freight" or express, he may not be making very much after all.—ED.]

H. H. Root, after reading last Straw, p. 427, with your foot-note appended, I said: "If all that I don't know about queen-rearing is put along with what Huber Root and Mell Pritchard do know about it, it would make quite a book." For one thing, we don't know, when bees are rearing a queen, how long it takes to feed a larva. At least I don't from my own observations, and I'm a little suspicious that you and your fellow-conspirator are taking the testimony of others rather than your own observations. You say 6 days, and 15 to 17 days from the egg to the perfect queen. The orthodox time for full development, 55 years ago, was 17 to 18 days. See *American Bee Journal*, 1861, p. 199. Later it came down to 16 days, and later still to 15. As 6 days was, I think, the time given for feeding originally, I think you will find that needs cutting down too. In Cowan's Guide Book it is cut down to 5 days. In A B C and X Y Z it is given as 6 days (page 82, 1913 edition); but in a part written later, p. 166, we are told the larva is sealed "after about 5 days." Rather than to have any hard feelings between us I'm willing to arbitrate, with the bees as judges, Mell Pritchard to report their decision. Till then I stand by the statement that it is sometimes less than 5 days from the time the larva leaves the egg till it is sealed, but never more. Just by way of appendix, let me say that I don't believe any good queen ever took 17 days for development, altho under sufficiently poor conditions 18 days or more may be needed. [Mr. Pritchard is going to make some careful tests this season, and he will keep a record of the average elapsed time in some thousands of queens. More anon.—ED.]

Grace Allen

THE DIXIE BEE

Nashville, Tenn.



In connection with the article, "Nix on the Solar," page 445, June 1, I wonder what a straw vote would show.

* * *

I wonder how long drones will be tolerated in a super. Some frames of brood that we raised contained considerable drone brood (I do hope Mr. Scholl won't read this), and the big burly fellows had hatched out, and were in a crowd just over the excluder when we next opened the hive. Suppose we hadn't opened it—would the workers have allowed them to remain up there until the edict was issued against drones in general? And would they live that long?

* * *

Rain and cool weather have kept the bees of this section in their hives for days at a time, with a truly wonderful clover bloom all around just waiting for its nectar to be gathered in. (But, no; that's the pity; it really doesn't wait at all. As soon as it is thru blooming, it stops, whether the bees have taken the nectar out or not.) One prominent beekeeper recently wrote, "This cold weather and rain has spoiled the best honey-flow I ever had." But even at that, his crop will run into tons; so, in spite of our own sympathy, increased by our own little disappointment at seeing our modest hopes fade, we could only smile when some one said, "Well, I wouldn't mind having a spoiled crop like that every year." You see, we're going to have a good crop in spite of the weather; but if we had had clear days and sunshine, what a story we might have had to tell!

* * *

Talk about advertising, I have just been interrupted by a ring of the front door-bell, and a youth who detained me only long enough to say, "Good for one cake of — soap," while he handed me a printed sheet with a coupon attached bearing the capitalized legend, "FREE SOAP COUPON," also instructions and descriptive detail. Housekeepers in this city have been fairly "pestered" one time and another by various ambitious firms who have chosen this house-to-house method of advertising. Often some inducement is offered—a measuring-cup, I recall, by the cottoleone people—to persuade us to put in an order (thru our own grocers) before some specified date, or a coupon is presented for part payment. For a while two or three baking-powders kept my door-bell ringing almost constantly. The soap and scouring-powder people are

working Nashville now on this coupon basis. You see it's the housekeepers that buy the baking-powders and the cottoleone and soap. And it's the housekeepers who buy the honey too, I'm thinking.

* * *

FOR BEGINNERS.

If you have not been allowing swarming, and yet want some increase, you may have started nuclei with two or three frames of brood and some honey from big, strong, crowded colonies that needed room. But do be sure to watch over them. They will quite surely need to be fed after the honey-flow, if not before, to develop into sufficient strength to be worth anything, even wintering. I have seen nuclei started in July and August, and left to depend on their own efforts till fall, when they were given enough syrup to go over winter. But tho they pulled thru till spring all right, and started building up, they failed to get strong enough to take advantage of clover when it came. As soon as the flow was on, hive conditions developed rather similar to those described by Mr. Chadwick on page 388, May 15. The bees plunged right into nectar-gathering; but, not being strong enough for super work, they filled up the brood-chamber and soon the queens were honey-bound. It does not pay to have these weak colonies about the yard; so be sure, when you start increase, to give them such good care that they will have a chance to amount to something.

* * *

In Clover Time.

Across the hills of spring we drove
And down the lanes between,
Before the breath of summertime
Had dusted up the green.
And, oh the sudden, dizzy sense
Of worlds blown all abloom,
With every breeze coquettishly
Flirting some perfume!

The delicate wild roses blew
Faint sweets from every spray
Where old rail fences ran zigzag
In their bewildered way.
And, oh the honeysuckle scent
Afloat from first to last,
So winey and intoxicant
It swayed us as we passed!

But best of all, aye, best of all,
Was clover by the road—
And in the field—and up the hills—
For everywhere it showed;
And everywhere its breath was sweet,
And everywhere a bee
Was swaying, raptured, at its tip
And humming merrily!

BEEKEEPING IN CALIFORNIA

P. C. Chadwick, Redlands, Cal.



Mr. Crane says, page 328, May 1, in speaking of out-apiaries for comb honey: "Much of one's success will depend on doing everything when it should be done." Is not that the case in managing for any kind of honey, Bro. Crane?

Mr. L. E. Webb, of Morgantown, N. C., says his bees gather sourwood honey from a mountain location that is two and a half miles distant at the nearest point, and as far as five miles distant. Mr. Webb must have obtained his stock from some of those long-winded stout-winged fellows west of the Rockies.

Allen Latham says, page 362, May 1, that one year he produced a honey crop which netted him over \$60 per day for time actually on the job. This leads me to reflect that I have known beekeepers who have doubled that amount per day for time actually put in, but which does not say by any means that several additional days could not have been put in at a like remuneration, by doing, as Bro. Crane says, "the right thing at the right time."

I am in receipt of a copy of the report of the state bee inspector of Iowa, for which I am indebted to Inspector Frank C. Pellett. What a contrast indeed to the way things are carried on in this state! Mr. Pellett's report, consisting of seventy pages, neatly bound in cloth, is brimful of things that must interest Iowa beekeepers, with much information valuable to any of us. This man Pellett seems to be one who does things, and would be an asset at the head of such a department in California. There is no question but that we are falling behind in the inspection line—far behind many other states. Our inspection is divided into county units that are more or less subject to political influence, and our state association is as full of wire-pulling as an egg is of meat. And, sad to state, we seem to be going to stay where we are, which I believe would be just as well as to have some men at the head of the state department who have been slated for the place. If we had a man like Mr. Pellett, what a boon to our industry it would be!

COLD-WATER PAINT FOR HIVES.

The editor, on page 343, May 1, has virtually recommended a paint which, if I am

correct, is called "powdr" or cold-water paint, it being mixed with water instead of oil, and is much cheaper to apply the first coat. But is it cheaper in the long run? I have had it under my personal observation this season with the purpose in view of deciding its value as a hive paint. I cannot say, however, that I have been altogether pleased with the results of its use. In the first place, it is a wood protector and not a preserver. On any surface where its application can protect all of the exposed parts of wood it will work very well, but in no other places. The outside coating is simply all there is to it. After it is applied the water evaporates and leaves a cement-like crust on the wood. But, unlike oil paints, where the surface is not entirely free from moisture it has no penetrating or preserving power, and leaves the wood open to the elements of the weather to such an extent that season-cracking is not stopped, while the same wood with oil paints applied, and the oil penetrating into the wood, would preserve and prevent the cracking. When a beekeeper goes down into his pocket to pay for lid material which calls for a board 17 inches wide, and of clear redwood, he is naturally a little "peev'd" when he finds that his paint experiments have caused some very wide rents in those beautiful one-piece lids. Then do you wonder that a fellow-beekeeper hastens to admonish all to go a bit slow on the proposition? Try it out a little for yourself and see if I am right. Meanwhile let me recommend to you good white lead and pure raw linseed oil as being the very best white paint you can find. For dark colors there is nothing better than red paint commonly used for roofs, called "prince metallic." Hives should not be painted dark colors in this region, as the sun's rays are too strong, causing more intense heat. [Cold-water paint is certainly better than no paint at all. A large percentage of beekeepers don't paint their hives. The hot sun checks the wood because the dark color of the weather-stained wood draws the heat, and the combs inside are sometimes melted down. "Powdrpaint," if white, would overcome the difficulty. Of course, no water paint can be equal to an oil paint; but look at the difference in cost, and think how swarming is increased because the hives are too hot! There are many places where there is no shade. Oil paint is expensive. Why not use water paint or cement paint? —Ed.]

E. G. Baldwin

FLORIDA SUNSHINE

DeLand, Fla.



CALLED BY ANOTHER NAME.

The ability of locally applied names of plants and shrubs and trees to mislead the best intentions is almost startling. Several years ago a beeman from northern Florida or southern Georgia said to me, "We count on the holly for our surest yield of early honey." When I tried to identify it, whether our white holly of this section, whether it was an allied species, or what, I could glean nothing from his meager description and vague terms. Later on, another beeman from further north in Georgia said about the same thing, substantially, but he used the word "gallberry." Three or four summers ago I was impressed with the value of a modest-looking shrub that grew not over two or three feet high along the water-courses, and near the hammocks of even the pine lands near here—the value, that is, as a bridge between the cessation of the citrus honey and the opening of the palmetto honey-flow. On identification the latter shrub proved to be the *inkberry* (*Ilex glabra*), and as such I always spoke of it; it is thus called in Small (Flora of the Southeastern U. S.) and in Baerecke (Ferns and Flowering Plants, Atlantic Section, Middle Florida); so also in Chapman (Flora of the S. E. United States). All called the plant I knew "the *inkberry*." Not one of them mentioned "gallberry," nor once quoted it as even a local name for any plant or shrub. I was surprised and not a little puzzled—for all bee-men from the Carolinas to the Keys seemed to know of gallberry and its value for the bees, tho none knew inkberry. At last the mystery has been solved. The two are identical—inkberry and gallberry! Did you ever? And not one of the named authorities mentions gallberry, and not a local beeman nor any one I ever conversed with knew of or used the name inkberry! Such a complete divergence of terms I have never before known. But at last the fox is run to earth, and has been captured. Henceforth I shall speak to our friend the inkberry and call him familiarly by the old term, the common term, "gallberry." It reminds me of the difficulty I had in identifying the four tupelos of the northwest section, the so-called "white tupelo," the "black tupelo," the "black gum," and the "water gum," tho the local bee-men call them generally the black and the white tupelos.

THE PROSPECTS FROM THE MANGROVE.

At this time the buds of the mangrove (black mangrove, *Avicennia nitida*) are

opening, and look fair for a good crop; but one never can do more than make a guess about the mangrove. It never lacks for water, drouth never affects it, for it grows on the islands and shores of land that is always moist from the salt water of the tides. It never fails to bloom profusely. But that is all we can be sure of. Vigorous growth and profusion of bloom avail nothing unless the weather conditions are perfect; nor does any one know what these conditions are that make perfection of weather conditions for the mangrove. With the palmetto, bee-men can observe that excessive drouth during blooming time, or excessive rain, will lessen the flow of nectar from that source. With the mangrove it is all conjecture. We know it yielded monstrously (no other word will suit it) before the big freeze of 1894; since that time it has been steadily coming into larger and larger proportions and size, gaining some of its old-time appearance, tho none of the shrubs can yet be called really trees in the vicinity of Hawks Park and New Smyrna, the old Mecca of bee-men when mangrove gave such unheard-of yields. It has not yet, however, come back into its old-time secretion of nectar. Whether it will ever do so, remains for time to determine. Bee-men hope that it may—naturally so. The yield seems better on the mainland, but the quality seems a little better on the Keys off the southeast coast. This honey is light in color, tho not quite so light as pure orange. It is not quite so good in flavor as palmetto or orange. It candies easily and hard, almost as firm as white-clover honey. The fact that it grows only across bodies of water entails a considerable loss of the flying bees across the salt water to the mangrove-fields. I have seen, on windy days, hundreds of bees swimming only to drown on the water between the islands and the mainland—bees that had been unable to combat the high winds with heavy loads of honey. When mangrove yields well a bee can gather a load from a single blossom, and then leave some. This is no fairy tale, but actual fact. It is probably most often the old bees that perish thus—old bees whose wings are frayed and wasted. The cabbage palmetto (*Sabal palmetto*) blooms right along with the mangrove in point of time; but on the higher land—the islands that are above tide-water, and on the hammock lands that are not submerged by salt water. It is a picturesque sight to stand on one of the shell mounds that characterize the East Coast and look for miles over a green sea of mangrove

on the seaside, and sight along miles of towering cabbage palmettoes on the mainland side. It does seem that no number of bees could ever cull all the blossoms that must open along the Indian River when mangrove and cabbage palmetto are both in bloom. The honey is thus always mixed, never pure or separate. But each is a light honey, which is fortunate, or else the light would inevitably be spoiled by the dark. The blend is a good honey.

THE "HONEY" METHOD OF INTRODUCING.

Whenever I hear a beeman telling a new or retelling an old method of introducing queens I always "sit up and take notice." I do more. I begin to ask him questions. And the first question is, "Will it introduce a virgin queen?" If he says yes, then you may be sure I always try the method at the first opportunity. When the Miller method of using smoke was being agitated, of course that method had a good trial in my apiaries. And while I did succeed in introducing virgins to nuclei occasionally (tho seldom to full colonies) the one troublesome but essential feature of that method, viz., the necessity of having not more than a one-story hive, made it almost impossible for me to use it when I wished to do most of my introducing, for that is right in the midst of the orange-honey flow, when hives are often three stories high. To take off the two supers, reduce to one story, and then smoke the bees almost to suffocation, and do it all with the supers piled up alongside, waiting till the queen was in made it of little practical use to me, tho it is a useful thing to know, and have on hand for occasion. Not long ago my good friend Mr. F. M. Baldwin, now of Sanford, said to me, "Did you ever try the honey method?" When I said no, he said further that he had obtained almost uniform success with it, and that Mr. Clute, also of Sanford, used it almost altogether, with uniform success. Well, after such testimony I tried the method. Tho I had heard of it before, I had been rather afraid to daub the queen all over and pour her into a hive, especially if she was a valuable one; but I took the first opportunity, and tried it on a rather inferior tho laying queen. All worked well. Inside of a day she was laying. I then tried it on a more valuable queen with the same result, laying inside of a day. Then I went it one better, and put it to the ultimate test. I found a frame of fine virgins, just hatched, and put one into each of three hives, dequeening them at the same operation. All three were accepted and mated all right. Then I tried it on a colony that had been

queenless for a week and had capped cells. I did not even remove the cells. The next day but one I looked into the hive, and was surprised to note the cells still there. Of course I gave the virgin up for lost. I was just placing the hive back in position when I noted the virgin running briskly over one edge of the comb, dodging under the bottom-bars. She looked as vigorous as any queen need to. While I could not account for the presence still of the capped cells, yet the introduction of the virgin was an assured fact. I next tried it on colonies that were dequeened at the operation, but introducing virgins two or three days old that had been caged in queenless colonies ever since being hatched. I have yet to report the first failure. The method seems sure. It is easy; and, tho a little fussy, if you call pouring a bit of honey over the combs fussy, still it is far less bother, and takes less time than any other method that I have ever tried—even the smoke method; and instead of being painful to the inmates of the hive it is pleasant and soothing, for there is about half a teacupful of honey poured in at the operation, the queen being soosed well into the cup beforehand, and all poured together into the top of the hives. Watch till you see her rolling over and over down among the frames in a sticky mass of sweetness, and your heart will fail you at first; but when you see that same queen laying the next day, and looking as bright and clean as if she had had a fresh-water bath, your fears will never recur. I shall continue to give this method severe testing; and if it works as well as it appears so far to do I shall be mightily obliged to my good friend who called my attention anew to an old device. I should like to have others try it and report.

ANSWERING INQUIRIES.

For several weeks I have been deluged with letters of inquiry regarding honey conditions in Florida, and possibilities for bee-keeping here. Most of the letters contained no stamps for reply. I will take this opportunity to state that I cannot promise to answer *all* letters, even when they do contain stamps, nor many of them, at times of special work with the bees; but those that seem to contain questions that are apt, pertinent to statewide conditions, or right to the point on some special location, I will try to answer in this department in so far, at least, as I can. In this way a wider circle will be reached, the replies will be put on record, and when, in a few weeks or months, the same inquiries are made again (as they surely will be), I can simply refer them to GLEANINGS, such and such a date.

NOTES FROM CANADA

J. L. Byer, Markham, Ont.



While we have no crop of honey yet, and are not sure of having any, in view of the fact that all food products are rapidly advancing in price, naturally we might expect to see honey selling higher than usual as well. I have just received a circular with price list, from one of the largest honey-pail manufacturers, and the price on tinware has made an amazing jump. No doubt the consumer, as usual in about all such cases, will have to bear a share of the increased cost of production, as the beekeeper, in addition to having to pay so much more for supplies, will also have to pay a higher price for all the necessities of life that he has to buy.

* * *

We have already mentioned the fact that Ontario is pretty well deluged—at least this is the case in the two counties in which we have bees. Clover is up to the knees already, with bloom scarcely showing. Farmers say the alsike will be too rank to leave for seed; so if they cut it for hay the heavy rains will prove to be a drawback to the beekeeper. White clover is correspondingly of vigorous growth; and while here in York Co. we usually depend little on this source of nectar, this year it may prove to be quite a factor, as it is unusually plentiful. If weather gets fine soon, thousands of acres of buckwheat will go in, as a great acreage is lying idle at date of writing. Buckwheat is a minor crop with us as a rule; but with prices of sugar looming high, naturally a big acreage of buckwheat looks good for a chance for cheap winter stores.

* * *

At this date, June 10th, some clover is coming into bloom, but not enough to make a showing in the hives, even if the weather were fine. It has rained almost continuously for about two weeks; in fact, with the exception of one week of fine weather, that has been pretty much the story all spring. That one fine week was the salvation of our bees, as they were about starving previous to that time. Honey came in with a rush from dandelion and fruit-bloom during the seven fine days, and enough was stored to carry the bees safely to clover bloom. While bees are not as uniformly strong as in some other years, wherever young queens are in evidence, and stores were in plenty, it is surprising how colonies have built up in spite of almost continuously wet weather.

Yes, we are expecting some honey—that is, if Jupiter Pluvius steps aside for a while and allows the sun to perform the work usually looked for in June and July.

* * *

In Notes for June 1 regarding cost of sugar I mentioned the price as \$9.00 per 100 pounds. That price, by the way, is about the retail figure prevailing at this date, \$8.26 being the actual figure wholesale now. Indications are that it will go higher; and I have just been reading an article in which the fruit-growers are afraid that the high price of sugar will seriously interfere with the marketing of their product. While, in common with others, beekeepers will regret to see the great masses of the people compelled to pay a high price for an article of such universal use as sugar, yet they need have no fear that high sugar will in any way hamper the sale of honey, as the contrary is apt to be the case.

* * *

The *Beekeeper* for June says that a great number of pound packages have been lost during the latter week of May, or thereabout. From private information I learn that the loss has been very heavy. Express companies have been blamed in most cases; but I am sure that the customers are often responsible for loss. Shippers should be sure that bees will be promptly cleared at customs or loss is bound to follow. Personally we have received two experimental shipments from the South, and both lots arrived in good order. Neither consignment was held up for an hour, as we had arrangements made for clearance. While both lots arrived in good condition so far as the bees were concerned, there was a vast difference in other ways. The first lot had queens inside with the bees, or, rather, the queen was in a cage inside of the package, but with the cage so provisioned that queens were about liberated when the bees arrived. Every queen in this case was all right. The latter shipment had queens in cages attached to the outside of packages; and of all the queens I have ever introduced, this lot certainly proved my Waterloo. Nearly half of the queens were lost; and from the fact that three that were finally accepted did not lay for about ten days, I was led to believe that a lot of virgins were sent during the rush of the very busy season. More later on this subject, as it is one in which many are interested at present.

BEEKEEPING AMONG THE ROCKIES

Wesley Foster, Boulder, Colorado



Rain has fallen in the Arkansas Valley of Colorado; and while the weather still is cool for the season thruout the Rocky Mountain region, bees are building up fairly well, and we are hoping for a fair crop. Idaho has some hard freezes, and bees did not winter very well; but no doubt the usual amount of honey will be ready for shipment as the season ends. Apiaries in Boulder County vary very much in strength. Some are building up strong, while others are short of bees, and the queens have not got down to regular systematic work. The solid frames of brood, so necessary to rapid building, are lacking in many colonies.

* * *

A SERIOUS LOSS FROM FIRE.

Mr. D. C. Polhemus, Colorado's most extensive beekeeper, suffered a severe loss recently in the burning of his warehouse. The total loss is about twelve thousand dollars with but \$3100 insurance. The building was full of supplies, extracting combs, and honey. Mr. Polhemus injured his foot at the time, but wrote me that it would soon be well. The heaviest loss and the hardest to recoup is the extracting combs. As the entire equipment for two thousand colonies was stored in the building, beekeepers can realize and sympathize with Mr. Polhemus and son Edgar in their great loss.

* * *

PICNIC OF THE COLORADO HONEY-PRODUCERS' ASSOCIATION AT FORT COLLINS.

On June 10 the annual picnic of the Colorado Honey-producers' Association was held in Fort Collins, at Lindenmeier Lake Park. Mr. and Mrs. Wm. Lindenmeier, Jr., were royal host and hostess to the 125 picnickers. Coffee and lemonade were furnished by the Fort Collins beekeepers, and the lunches were spread on the tables provided under the trees on the lake front.

The program began at about ten o'clock, with a discussion of the best methods of improving our stock of bees. The valuable point is to rear your own queens from the best you can select in your own apiary. Some advocated the purchase of breeders from the best queen-rearers.

Frank G. Rauchfuss demonstrated the starting of queen-cells artificially by the Doolittle method. His father, Herman

Rauchfuss, elucidated further along the same line. The speed necessary to do good work was well brought out. The strength of a colony to build the cells was an important feature that was not omitted.

Prof. C. P. Gillette, State Entomologist, gave a talk on "The Bee Inspection Law of Colorado," and some pointers on need of greater care in handling diseased apiaries. Beekeepers have not been careful enough in handling the disease, nor following the law closely enough in regard to moving bees.

It began raining before Prof. Gillette finished, and the crowd adjourned to the dancing pavilion, where the morning program was completed. The afternoon program was taken up largely with discussion of uses of honey in the home. Miss Miriam Haynes, of the Department of Domestic Science Extension work, of the Agricultural College, was the principal speaker, and she spoke of the very practical ways in which honey may be used in place of sugar, when sugar is so much higher in price than is pure honey. The use of honey in hospitals and sick rooms, she said, is rapidly being extended, as honey has been found to be so nearly a predigested food.

Mr. C. H. Wolfe, of Greeley, emphasized the need for beekeepers using their local papers in advertising honey, and told of his success in selling his own crop in this way. Mr. Wolfe is a live wire, and he puts enthusiasm in whatever he undertakes.

A feature mentioned by Mr. Rauchfuss was the use of little labels printed and placed in berry-crates. The wording suggested on the slips distributed was, "Have you ever sweetened berries with honey? If you have not, try it today. It is delicious." It is proposed that these slips be furnished by the thousand to the fruit-grower bee-keeper at a nominal charge. [See editorial.—ED.]

At the conclusion of the program most of the picnickers took an auto ride thru the Agricultural grounds. There were about twenty-five auto loads of beemen with their wives and children, who left for their respective homes at about four o'clock.

Dr. H. T. French, Director of Extension; Prof. C. P. Gillette, Director of the Experiment Station; Dr. George H. Glover, head of the Veterinary School; George H. List, Deputy State Entomologist, and Miss Miriam Haynes attended the picnic from the Agricultural College.

CONVERSATIONS WITH DOOLITTLE

At Borodino, New York.



FEEDING BACK TO COMPLETE SECTIONS.

"It now looks as if I would have a large number of unfinished sections at the close of the white-honey harvest. Because of the shortness of the season and the light honey-flow in this locality, only now and then a colony has completed even one super of sections, thus leaving the most of those worked for section honey with two or three supers of sections from one-fourth to three-fourths filled. Under these circumstances it seems as tho it would pay to mass all of the three-fourths-full sections on certain strong colonies, extract the honey from the rest of the sections, and feed for the completion of those massed nearly full."

This is something about which quite a little was written in the latter part of the last century; and while quite a few claimed to make a success of such feeding, occasionally the plan was reported a failure. It was claimed that those who failed did not have the right kind of bees, the colonies fed were not strong enough, the amount of brood and space given in the brood-chamber was not right, or else the honey fed back was not thin enough.

There is quite a difference in the character of the bees, even in the same apiary and of the same race. Some cap their honey with a smoothness and whiteness that is captivating to the eye, and store with energy and activity, even quite a distance from their queen and brood. Others have a disposition to cling to the brood-chamber, to crowd it with honey, and, when that affords no more room, to cease labor rather than overcome the disinclination to pass beyond the limits of the brood-nest into the surplus apartment above. In selecting bees to be employed for feeding back, no point is more important than that those should be chosen that enter the supers willingly. Hybrids of the German and Italian varieties are considered to be the best for the purpose of finishing up partly filled sections by feeding back extracted honey.

Then the character of the queen has quite an important bearing. The point here is that the queen should be prolific. Unless she is so, the colony will not have the numerical strength, and, what is more important, as fast as the brood emerges, the bees will crowd the cells with the feed.

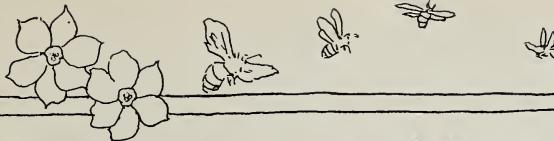
The season also has much to do with this matter. That must be early—the earlier the

better after the white-honey harvest begins to wane. In selecting this time we gain in two ways—first, we avoid as far as possible the disposition of the bees to store honey in the brood-chamber—a disposition which increases as the season wanes; and, second, we secure the great advantage of having the work done during the hottest weather, during which alone bees produce wax and build comb most economically. The opportune time is the interim between the white-clover-basswood season and the late honey season.

For obvious reasons the brood-chamber should be small, because, otherwise, an opportunity is furnished for a large amount of brood, the value of which beyond a certain limit cannot be great, altho it would cost a large amount of the honey fed; and any honey, if stored in the brood-combs, is of less value than it was before. The capacity of five Langstroth frames is what I have used, and consider that better than either four or six. These five combs should be filled with brood as far as possible, and the remaining part of the hive made up of dummies or frames of sealed honey.

The further the comb in the sections is worked out, and the more honey they contain when they are given to the bees to be completed, the greater will be the relative profit. Providing the bees with sections containing comb well worked out and quite well filled with honey, such as are usually plentiful at the close of the early honey harvest is more important than any of the other points in securing the highest success in this feeding-back business. The combs are in condition for the process of filling to proceed at once, and comparatively little wax needs to be produced, so that the work is greatly hastened and the consumption of honey saved in every direction. The honey, also, in such sections, which is unsalable in that condition, is doubled in value by the completion of the sections. Indeed, without the motive of bringing such sections to a salable condition, feeding back would be of doubtful advantage.

For the purpose of feeding back, the extracted honey used should be thinned to near the thickness of nectar as it comes from the flowers; for if honey as thick as that which comes from sealed cells is used the bee will be slow in taking it, especially if the weather is a little cool. By thoroly incorporating with such honey one-half its own weight of water the bees will handle it more rapidly.



How about Honey for a Side Line?

BY RUSSELL WILMOT

So many things had been suggested for side lines that Tim Smithers was ready to declare there was nothing new under the sun. Tim was wrong, and, being a big man and a successful one, he was ready to acknowledge it. It is only the little two by fours who "never make a mistake, and then only for variety's sake!"

Tim was wondering on this particular early spring morning just what he could feature that the other fellow hadn't thought about, when a woman all out of breath hurried into his store and asked him in a peculiarly wheedling manner if he wouldn't *please* tell her where she could buy some nice honey, either strained or in the comb. She went on to explain that she had been in thirteen stores and had not been able to

right place this time. Seven is called the lucky number, and this is the fourteenth place, so it is doubly lucky."

The woman added, as she took the honey, that her small boy was sick and would not be comforted until she made him one of her famous honey cakes.

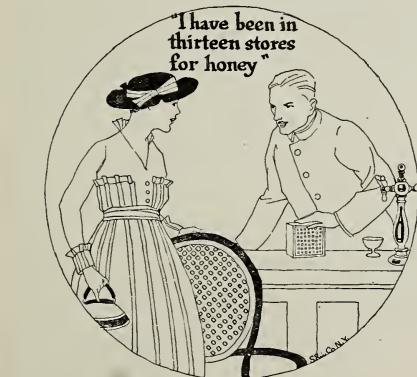
Tim Smithers winked four times again, turned the toothpick around to its original position, and reflected silently that this woman certainly had given him the hunch he was looking for. What he said aloud was simply this:

"Isn't that queer? We are planning to sell honey cake at our soda-fountain luncheonette—large, nice, square, luscious pieces of it. Wonder if your recipe is like mine?"

The customer assured him that hers was something extra fine, having been in the family for a number of years. She didn't offer to reveal what it was; but that didn't discourage Tim. He knew, if worse came to worst, the partner of his joys and sorrows, the renowned Mrs. Smithers, who was an excellent cook, could originate a honey cake that would surely equal any old moth-eaten recipe anybody might be able to trot out.

A reasonable amount of well-directed advertising reminded two-thirds of the women in Smithereen how good honey and hot biscuits were, how fine honey is on griddle cakes, how healthful a sweet for the children, and how nourishing as well. Tim soon found he hadn't bought nearly enough honey to supply his demand; but he soon corrected that mistake.

In the meantime his good wife had evolved several honey delicacies which brought every single man, every boarding-house victim, every small boy with a nickel, and every hungry school student to his counters. This is the way some of the good things were made.



locate what she wanted. It was either all dried up, mussy looking, or the people declared they didn't keep honey. Tim winked four times, turned the toothpick in his mouth around the other end to, scratched his head, and broke into a beaming smile.

"Well," he said at last as he placed the honey on the counter, "you've come to the

HONEYBEE CAKE.

Cream together one and a half cupfuls of strained honey and four-fifths of a cupful of butter. Have two whole eggs thoroly beaten and mixed with half a cupful of rich sweet milk; also sift three cupfuls of flour with two level tablespoonfuls of baking-powder, a teaspoonful of salt, one teaspoonful of cinnamon, three-fourths of a teaspoonful of allspice, and one-fourth of a teaspoonful of cloves. Add alternately to the honey and butter mixture a little of the egg and milk wetting, then a little of the flour combination.

When all the wetting and all the flour have been used, fold in three-fourths of a cupful of raisins and three-fourths of a cupful of well-washed currants. The fruit, of course, must be well floured first. Turn the dough into well-greased individual patty pans. Bake in a moderate oven until well done.

HONEY PUDDING.

Wash one cupful of rice and put in a deep baking-dish with one quart of milk, one teaspoonful of salt, the grated rind of one lemon, and one ounce of shredded lemon peel. Add eight tablespoonfuls of honey. Bake in a moderate oven, stirring frequently during the first hour. During the last hour do not disturb. Serve with thick cream.

HONEY FILLING FOR LAYER CAKE.

Cook half a cupful of honey and half a cupful of granulated sugar with two tablespoonfuls of hot water until it spins a thread. Remove from the fire and beat in the stiffly whipped white of an egg. Keep on beating until the mixture cools. Use between layers and on top.

HONEY BABIES.

Bring one pound of strained honey and one-fourth pound of butter to the boiling-point. Let it cool for half an hour, then beat in half a teaspoonful of cinnamon, one-fourth teaspoonful of ground cloves, one-fourth teaspoonful of allspice, the grated rind of one lemon, and one-fourth pound of chopped almonds. Sift one pound of flour with two level tablespoonfuls of baking-powder. Combine with the honey mixture and let it stand an hour. Roll out one-half or three-fourths of an inch thick, and cut into square or round cakes. Bake.

COLLEGE ICE HONEY DRESSING.

To one pint each of pineapple syrup, orange juice, and strained honey, add one level cupful of shredded cocoanut and one cupful of shredded walnut meats.

APRICOT HONEY.

To one cup of apricot pulp add one cup of honey and one cup of heavy cream. Drain canned apricots of their syrup, run thru a sieve, beat the cream, add the honey, and, lastly, fold in the apricot pulp. Serve as a top dressing for fancy ice-cream dishes.

STRAWBERRY HONEY.

To each cup of strawberries mashed and beaten, add half a cup of strained honey. Fold in the beaten white of one egg or four tablespoonfuls of marshmallow whip.

LEMON HONEY.

Cream three ounces of butter. Beat in one cup of honey and add the well-beaten yolks of three eggs. Stir in one-third of a cup of boiling water, and cook over boiling water until the mixture thickens. Remove from the range, and beat. Add three tablespoonfuls of lemon juice and three of orange juice.

Auburn, N. Y.

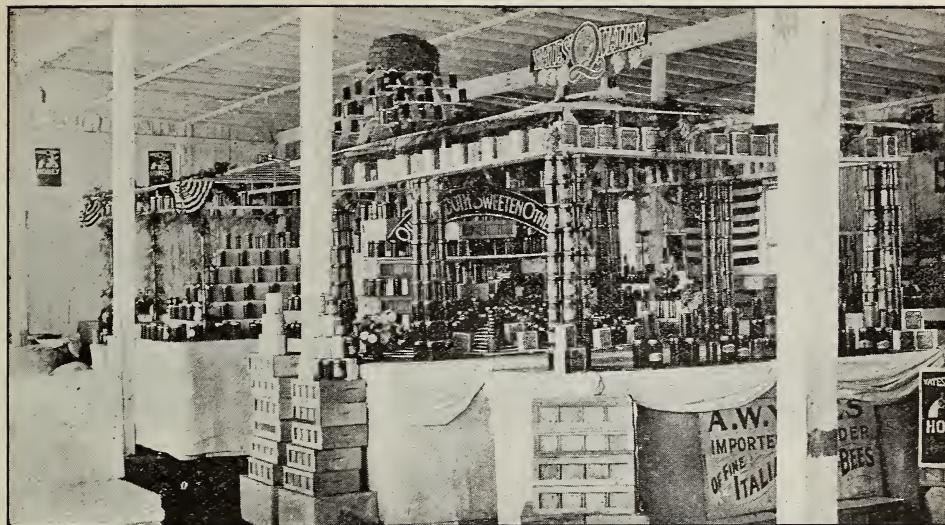
REMARKABLE DISPLAY OF HONEY BY THE CONNECTICUT BEEKEEPERS' ASSOCIATION, HARTFORD FAIR, SEPTEMBER 6-11, 1915

BY BURTON N. GATES,

Associate Professor of Beekeeping, Massachusetts Agricultural College, Amherst, Mass.

As usual, the Connecticut Beekeepers' Association has made large exhibits at the Hartford Fair. In 1915, however, this exhibit was more attractive than usual. From eight to ten tons of honey, it was estimated, were exhibited. The Beekeepers' Association is exceedingly fortunate in having about \$500 available for premiums—\$200 from the fair company and \$300 from the state. The exhibit was largely competitive, altho there were numerous displays which were put up most attractively, but not for competition. The illustrations include some of these exhibits.

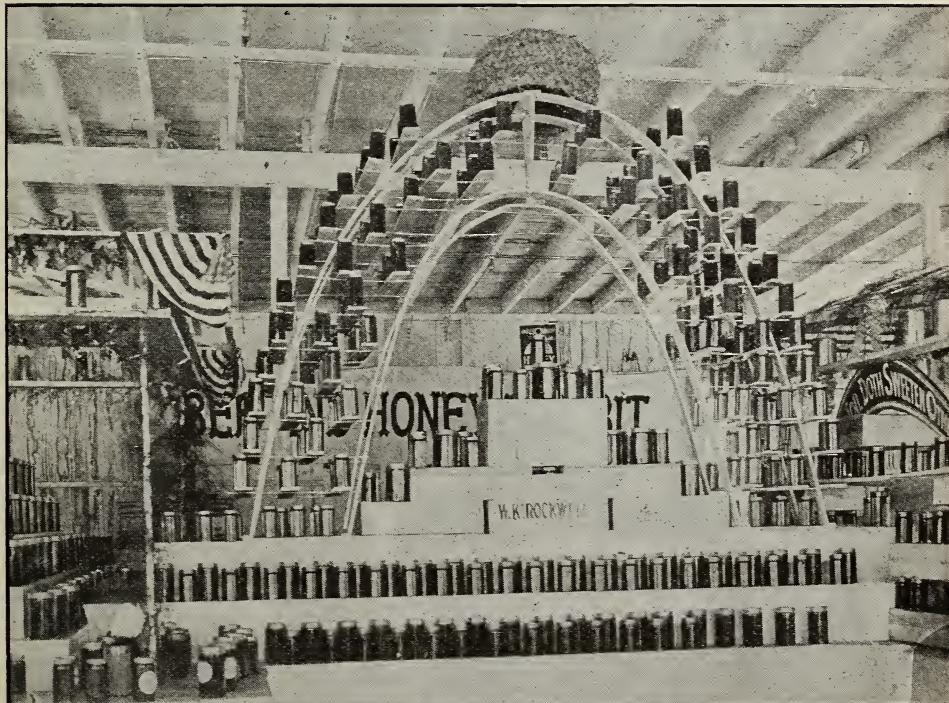
Besides the exhibition of honeybees, wax, apicultural implements, and honey cookery, there were concessions where honey, honey sandwiches, and honey fizz were sold. It was estimated that some five tons of honey were thus disposed of; that from 1000 to 1200 sandwiches were consumed on the grounds. As a new delicacy for the visitors at the fair, it was attempted to sell granulated honey in crisp ice-cream cones of the smallest size. The management, however, told the writer that these were probably too sweet to please the purchaser, and that the project was not particularly successful.



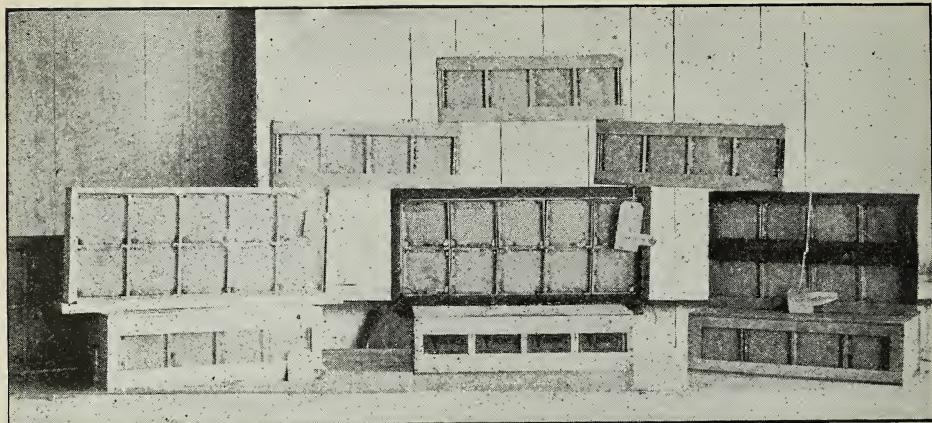
General view of honey exhibit, Hartford (Conn.) fair, Sept. 6, 1915.

The display of bees was found more extensive than usual. There were sixty colonies, each a single-frame nucleus, with the queen, workers, and drones, together with brood, pollen, and honey. In displaying

bees it is a great advantage to utilize merely the nucleus rather than a full colony, which was the older method of exhibiting. The nucleus, moreover, should not be too largely populated. In this way the individual



W. K. Rockwell's display of honey, Hartford Fair.



The prize comb honey, Hartford Fair.

bees could be more distinctly traced and the queen more readily found. Mr. A. W. Yates, who is superintendent of the bee and honey exhibit, strongly advocates a uniform glass nucleus hive which shall be utilized by each exhibitor. This adds to the attractiveness of the display, and facilitates in comparisons and judging.

Beeswax to the extent of 100 pounds or more was also exhibited.

Among the numerous calls in the premium schedule was that for a display illustrative of queen-rearing methods. The first premium was won by Mr. Yates, and is pictured on next page.

Of the competitive displays, Inspector W. D. Wright, of Altamont, N. Y., was the judge. Below is a list of prize-winners, and above is the photograph of the pile of premium comb honey.

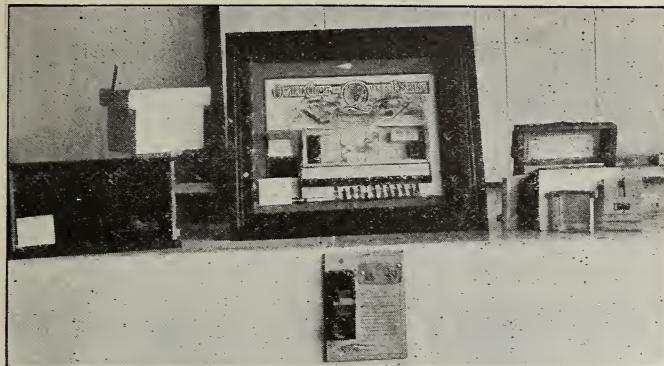
It cannot be too strongly advocated, as an attraction which will draw crowds, espe-

cially to the concessioners who have honey for sale, to have a demonstrational cage in which live bees are from time to time handled. Nothing is probably more sensational on the fairgrounds. The writer has frequently heard remarks that these demonstrations eclipse the snake charmer in the fakir row. The public, not knowing too much about bees, is always amazed at the non-concern of the demonstrator in the cage. Mysticism seems to protect the operator. If he is a teacher he will, of course, lecture as he demonstrates to the public, explaining how he manipulates the bees, and, incidentally but strongly, instruct in the value of honey as a food.

The beekeepers of Connecticut are indebted to Mr. Yates for his untiring efforts in promoting beekeeping interests. One of his maxims is, "Let the bees draw the crowd." This is entirely practicable. Its magnetism may be judged by the numerous offhand remarks of spectators. As the crowd drifts along the fairgrounds it may commonly be heard, "Oh, see the bees!" Then a group will turn into the display building where they observe a hundred or more lined up and waiting for honey sandwiches at the sandwich-booths, or a group anxiously awaiting their turn for honey fizz. Impelled by the interest of others, more fall in line. Thus it continues for hours.



Exhibit of beekeepers' appliances, Hartford Fair.



A. W. Yates' exhibit of queen-rearing appliances.

In commenting upon the success of the exhibition this year, Mr. Yates said it was the best and most satisfactory year in their history. Each concessioner had had good business, and had disposed of large quantities of honey. Moreover, the best of feeling had existed between competitors and the visitors.

It is a little surprising that more states do not bend their efforts toward a large honey exhibit, at least in one place in each state. It cannot be expected that the first year will reap the benefits which are resultant of several years of displays. From year to year the beekeeping exhibit at a fair becomes more and more a fixture. People hunt for it, in anticipation of seeing the bees or buying honey. Many a person goes to the fair purposely to secure a certain brand or kind of honey which he knows he

can get there. The writer most urgently suggests, for the consideration of beekeepers' societies, that they plan definitely at their forthcoming winter meetings for a beekeeping display at their prominent agricultural fairs next fall:

The winners at the fair were:

	Premiums	Value	won	of
	1	2	3	awards
William Bristol, Meriden	0	2	0	\$16.00
C. H. Clark, Cobalt	2	1	2	39.00
H. W. Coley, Westport	2	0	2	33.00
A. E. Crandell, Berlin	0	0	1	6.00
J. T. Cullen, Derby	0	1	0	8.00
William Ehouse, Bridgeport	0	2	1	17.00
J. G. Griswold, Hartford	2	0	4	39.00
Allen Latham, Norwichtown	3	2	0	46.00
A. W. Yates, Hartford	6	6	0	163.00
W. E. Rockwell, Bloomfield	3	2	5	98.00
				\$466.00

In the culinary department there were but three entries—Mrs. A. W. Yates, Hartford, winning about one-third; Mrs. W. E. Rockwell, Bloomfield, and Mrs. L. W. Adams, winning the rest of the \$35.00 offered in this class. This department is, however, much appreciated by the beekeepers, and interests the public. It is of importance in all honey exhibits.

Amherst, Mass.

INEXPENSIVE BUT EFFECTIVE ADVERTISING

BY FRANK KITTINGER

The accompanying picture of my honey sign, which is in front of my home apiary, is a means of disposing of quite a quantity of honey. My apiary is located within view along one of the main auto roads between Racine and Milwaukee, where on some days hundreds of autos pass. Quite a few tourists see the sign and stop for honey. I intend having a sign somewhat similar to this at each of my outyards where I have honey for sale.

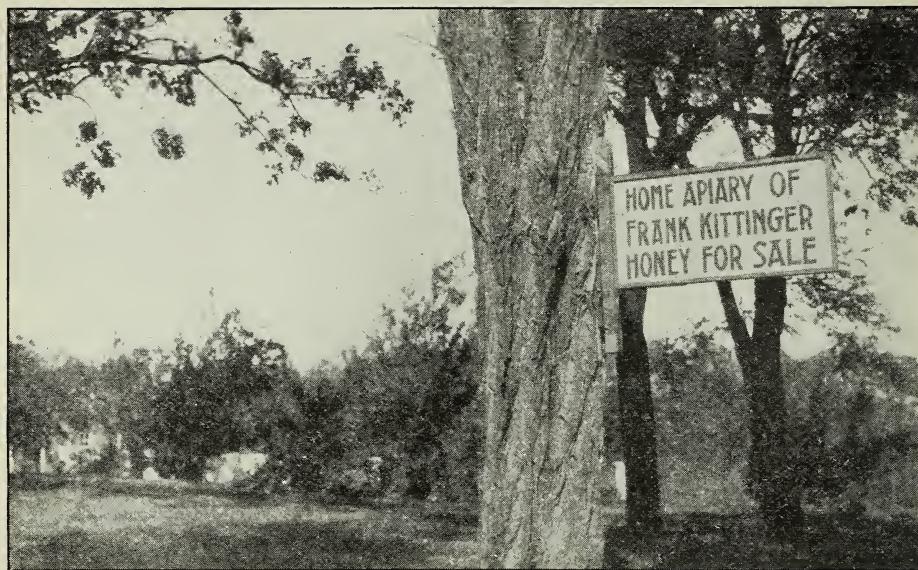
I also dispose of quite a quantity of honey thru the country stores.

We put up a two-pound can and five and ten pound friction-top pails for retail trade. When I first tried to get country store-keepers to handle my honey they thought they couldn't sell the two larger-sized packages, so that the first order was for more of

the small size than either of the two larger sizes. In nearly every case after the first order the succeeding orders were for more of either of the two large sizes than the small.

As an inducement for the stores to give my honey a trial I offered to put it in on condition that they give it proper display, and if it didn't sell I would take it back. As yet I have had to take back but very little where it has been properly displayed. I find that honey is something that will not sell readily if set behind a counter out of sight. It must be out where customers can see it.

I do not do any canvassing in the territory where the stores sell. The price is the same to consumers whether they get the honey at the stores or at my apiary. I run



The sign that did the business.

a small advertisement in one of our local papers, to keep my name before the people and let them know I am in the business.

HONEY.

Eat Kittinger's Honey. Phone 9333-L.

We put out nothing but a well-ripened grade of light extracted honey for our retail trade. Honey that is honey will give satisfaction, and help to advertise one's business. There is no use trying to work up a trade on honey of inferior quality.

Franksville, Wis.

[When Mr. Kittinger, of Franksville, Wis., hung out his sign, "Pure Honey for Sale," on the tree in front of his home, he not only succeeded in selling a lot of honey but in breaking into publicity on a national scale. The Cleveland Advertising Club, the Rotary Club, and the wholesale merchants board of the Chamber of Commerce, of Cleveland, were lunching together at Hotel

Statler one noon listening to a lecture by Frank Lovejoy, of the University of Wisconsin, on a survey of a Wisconsin county. The occasion was "Farm Market Day." Suddenly Lovejoy threw on the screen a picture of Kittinger's apiary and his advertising scheme. The speaker commented upon the value of the yard and the progressive salesmanship of its owner as indicating in general that farmers are waking up to modern business methods.

This "Farm Market Day" is being staged before advertising clubs and commercial organizations in all the large cities of the eastern half of the country by a group of thirty-five publishers of farm papers, headed by E. T. Meredith, of Des Moines, and about fifteen successful business men from small towns of the middle West. Their aim is to convince city people that the farmer is the biggest single buyer the manufacturer and wholesaler can find, and to show that he is as much a business man as they.—Ed.]

PUTTING BEES INTO THE MOVIES

BY ERNEST A. DENCH,
Vice-president Photo-play Authors' League of America.

The motion-picture producer has no use whatever for the comedy of words. It must contain deeds full of mirth-provoking possibilities, and he has no doubts on this score when he introduces bees.

A well-known situation, with numerous variations, is to have the villain sitting in

the park. A bee lands on his forehead, and a close view is introduced to show the grimace he pulls. He flicks the bee off, only to have it land on the heroine's nose a little distance away. He, of course, gets in bad at once.

Another situation, always sure for a

laugh, is a character who keeps others at bay by threatening to release a hive if they advance on him. These stunts are comparatively easy for the director to put over, tho not so pleasant for the players who have to carry them out.

Not all films offer pure entertainment. The motion-picture producers, like the popular magazines, often put out a pleasing combination of entertainment and education. These educational films, so called, deal with all conceivable subjects; but were you to ask the motion-picture producer the most difficult kind of film to take he would inform you that they are studies of insect life.

All a magazine writer has to do is to interview a bee-farmer and obtain a few still photographs, perhaps already at his command. The film producer, however, in order to secure a convincing picture, must cover his subject in actual reality. He is accustomed to temperamental actors, but finds that bees will not stand for any rehearsals, and often refuse to act in the way required of them.

A producer about to take a film of bee-life will read up a book on the subject and prepare a scenario therefrom. This will probably take several months to produce, and yet at the most will yield only sufficient negative to occupy the screen ten minutes.

A motion-picture photographer of my acquaintance, who makes a specialty of educational work, told me that the hardest task he has ever been up against was filming a swarm of bees in action. He started by establishing a real apiary in the studio yard. Some incidents he obtained with comparative ease; but whenever he wanted to "catch" the bees in action they swarmed around him as soon as he began operations, so was compelled to beat a hasty retreat in the interests of safety first. He had the patience of a saint, and deserved to succeed.

The one and only cinematographer who has achieved a reputation for bee-films is J. C. Bee Mason. He has produced four motion pictures of the honeybee, the royalties from which have netted him \$10,000. In the true way of a pioneer, Mr. Mason had many set-backs before he succeeded, and is now quite hardened to stings.

The normal speed for the taking of pictures is sixteen to the second. Some time ago Monsieur Lucien Bull desired to show the movements of a bee's wings, and had to resort to his electric spark. Had he not done so the results would have proven as indistinct as an electric fan in motion. To accomplish his aim he set free a bee from the contrivance attached to his camera, which attained a speed of two hundred

pictures per second. The bee, however, was such a hustler in regaining its balance that only twenty pictures were necessary to record the stunt—the only time it has been accomplished.

THE SILENT SALESMAN

BY ED SWENSON

I find that a sign that tells what I have to sell is a great help to me in selling my season's crop of honey. I live on a well-traveled road right in the edge of town, and I find that this sign brings me many sales that would otherwise slip by.



The silent salesman.

If the goods are satisfactory, my customers tell their neighbors, who will also come to the place where they see the sign, as that is the mark the neighbors tell them to go by in finding the place. The sign should be about 4 rods from the road, so people can read it without stopping. But remember that, in order to work up a business, you must produce the best, as quality will be remembered long after the price is forgotten.

Spring Valley, Minn.

[See editorial.—Ed.]



Exhibit of J. A. and Charles Kinzie, at the Riverside County (Cal.) Fair.

HONEY AND HONEY COOKING FEATURED AT A COUNTY FAIR

BY MRS. J. A. KINZIE

My husband, J. A. Kinzie, and his brother, Charles Kinzie, had an exhibit last fall at the Riverside County fair. This was the first time that either of them had exhibited anything at a fair, but they received many compliments and a special premium badge for a good display.

Eighty-two dollars in premiums were offered this year; and out of the fifteen entries J. A. Kinzie received six first and four second premiums, and Charles Kinzie received four firsts and six seconds. This they were proud of, considering that two other beekeepers had entries there who had exhibited before.

Another thing they were pleased with was the interest shown toward the bee industry

by the visitors. The two men were busily engaged nearly every moment explaining things and answering questions.

It was beneficial for the exhibitors as well, for a number of well-known beekeepers discussed various points of the business with them. The head florist of the Glenwood Mission Inn was pleased with the display of honey-producing plants, and gave the botanical names of each plant. I sent to the Root Company for their cook-book and made a few articles to exhibit to show that honey can be used instead of sugar or molasses in cooked goods. Many people were surprised to know this. We feel that we did some good in arousing the interest of the people in honey as a food.

Arlington, Cal.

A NATIONAL "HONEY WEEK"

BY LEWIS L. WINSHIP

My idea, which at present is nothing but an idea, will require the co-operation of beekeepers all over the country to make it a success. It is nothing more nor less than to establish a national honey week—store-windows all over the country to be given over to the display of honey. I would suggest that it be managed by the National Beekeepers' Association, and that all state

associations be asked to participate, as well as individual beekeepers. It could be managed similar to the "oyster weeks" and "coffee weeks" now in successful operation.

The first year this might not be a decided success, for it would take time; but with proper co-operation could it help but be one in the end? The easiest way to raise money for this undertaking would be to ask bee-

keepers to donate to this cause what they usually spend for advertising. Printing would be cheaper in large quantities; and, really, what is there to advertising in any form but printing? If the money held out, would it not be a good plan to get up a design for a window display similar to what was used for last year's coffee week? My plan would be to have individual beekeepers ask their grocer and other grocers in their city to put a display of honey in their windows for the week. Perhaps the grocer would not be handling honey at the time, but one could loan him enough in attractive packages to make a display, and let him settle for what he sells. Nine times out of ten he would become a regular customer when he sees how great his profits and sales were on honey. Attractive stickers would have to be furnished for beekeepers to put on their envelopes, stationery, etc. These would not necessarily have to be free, and I think that beekeepers would be glad to pay the post price per hundred for them.

A campaign of this size would be nothing for a large private concern; but to the average beekeeper it looks like a great task. Why should it be such a great undertaking

when we have the whole beekeeping fraternity to help? What beekeepers need is closer co-operation and efficiency. When a large private firm goes wrong they call in "the efficiency expert;" when a beekeeper goes wrong he throws down his smoker and quits. This should not be, and we shall never accomplish anything until we learn to stick together thru thick and thin, thru fat years and lean ones. If this is true in other things, it is also true in advertising, and we can accomplish a lot by sticking together.

When your brother beekeeper makes a sale of honey to an old customer of yours, don't say that you never will speak to him again. Ferret out the reason, and see whether cheaper honey, superior honey, or advertising did the stunt. When you find out, remedy the fault. Advertise if you want business; or if he is selling honey cheaper, find out if it isn't cheaper honey.

What we beekeepers want is big business, and we must create a sentiment in favor of honey to sell it. My idea of a *national* honey week is only an outline, and I hope I shall not have to leave it to posterity to see it exemplified.

Springville, N. Y.

APPEARANCE THE MOST IMPORTANT ADVERTISEMENT

BY RUTH C. GIFFORD

Honey, more than any other food, is sold by its appearance. People are in the habit of eating the other foods, and will buy them even when they are unattractive. But if the honey is a little unattractive they say, "Well, I guess I won't take any honey today. I can get along without it." How often I have heard that remark! And is there anything more discouraging?

On the other hand, even if a customer has not thought of buying any, when he sees some nice clean-looking honey he says, "My! but that is beautiful honey. I want some of that."

My father, who handles most of the honey locally, on a single trip often sells as much as six cases (whole case to a family) to people who never bought it before. The people say, "Oh! it looks so nice I can't resist it;" and its only advertisement is appearance.

Several years ago my honey did not sell well. In fact, it did not sell at all. I tried to make it as attractive as I would have wanted it if I had been the buyer. The care started at the time the honey was taken from the hives. Every section had to have all the cells sealed except the row next to the wood. Of course I liked it sealed too,

but that is not always possible. Not a single section containing unsealed honey (except in outside row) was ever offered for sale. The damage done to the trade, and the difficulty in selling unsealed honey, is almost unbelievable—unless you have had experience.

Then every speck of the propolis was cleaned from the outside, the edges, and the inside of the sections. The need of this work, in spite of the fact that it is often mentioned, cannot be too strongly emphasized. People call propolis and surplus wax dirt. The person who is selling the honey can talk himself deaf and dumb in explaining propolis, and the customer will turn right around and call it *dirt*. Cleaning the sections is hard work; but in this locality I have the choice of cleaning them or not selling them. It also keeps my trade. People often say, "I began to think you were not coming this fall. Two men have been here and their honey was cheaper than yours; but I waited for you. Their honey was *dirty*."

The final thing needed to help my honey was an attractive package. Cases holding twelve sections proved to be the most popular for family use. These were stained a

dark blue on the outside with indigo. That kept finger-prints out of sight; and, most important of all, the sections showed up beautifully white against the dark-blue cases. Another thing to be considered was that the cases could be used several times. If the outsides were soiled they were cleaned with a damp cloth. Then another coat of indigo made them look as good as new.

When the honey was to be exposed, as in stores, and for the fancy trade, each section was neatly wrapped in glazed paper and labeled.

In a nutshell, here for the average bee-keeper is the secret of successfully advertising honey. Good honey in well-sealed honest sections; scrupulous cleanliness, and attractive packages.

North East, Md.

BULK COMB HONEY IN CLEAN GLASS JARS

BY E. B. AULT

I am sending a picture of my display at my former home, San Marcos. It was exhibited at the Hays County fair. In the lower left-hand corner I had a frame of brood with a fine queen on it that I valued at \$50.00. In the showcase I had a printed card reading, "Can you find the \$50 queen?" It attracted lots of attention.

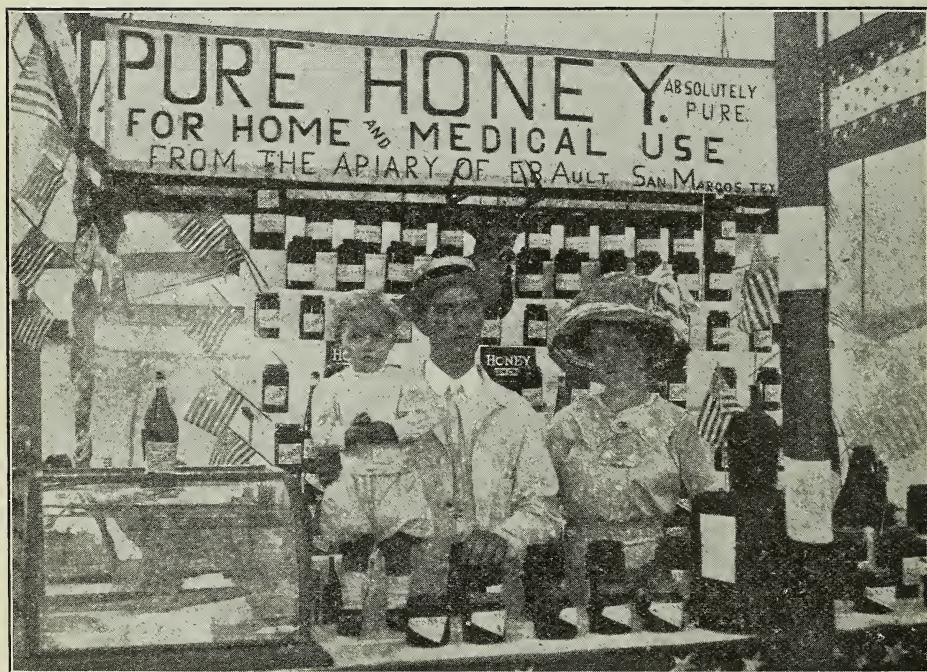
We used clear-glass quart and half-gallon jars with golden tops, to pack the nice bulk comb in. The comb was cut into strips that reached from bottom to top, and the jars were filled with extracted honey.

We also had bulk comb in pails on the lower shelves, but it does not show in the picture.

My wife and I did all the work, even painting all the signs.

We filled a number of bottles with beeswax; and when cold I broke the bottles, leaving the wax in attractive shapes. I also had a 70-lb. cake with a United States flag sticking in it. An exhibit of this kind costs very little, and yet it sold all my surplus honey the same week.

Calallen, Tex.



E. B. Ault's exhibit of bulk comb honey in fruit-jars at the San Marcos (Texas) fair.



An exhibit of many kinds of fruit and berries canned and preserved in honey. Note.—The apples shown on the table in front belonged to another exhibit.

EXHIBITING HONEY PRESERVES OF MANY KINDS

BY G. A. KOGER

The picture above shows my exhibit of honey and fruit canned with honey at the Gem State fair, Oct. 5 to 8, at Boise, Idaho. I had the following fruits and preserves put up with honey only—no sugar:

Peaches, pears, blackberries, black and red raspberries, logan berries, gooseberries, tomatoes, cherries, strawberries, peach and pear preserves, and jonathan-apple jelly. Every one was much interested in this part of the exhibit.

The list of awards in the bee and honey department is as follows:

Best five cases comb honey: John Bliss, Ustick, 1, \$15.00; E. F. Atwater Co., Meridian, 2, \$10.00.

Best twelve jars extracted honey: G. A. Koger, Meridian, 1, \$15.00; E. F. Atwater Co., 2, \$10.00.

Best display extracted honey: G. A. Koger, 1, \$10.00; E. F. Atwater Co., 2, \$5.00.

Best cake beeswax, G. A. Koger, 1, \$6.00; E. F. Atwater Co., 2, \$3.00.

Best display apairy products: G. A. Koger, 1, \$15.00; E. F. Atwater Co., 2, \$10.00.

Best single-comb nucleus three-banded Italian bees: G. A. Koger, 1, \$10.00; E. F. Atwater Co., 1, \$10.00.

Best single-comb nucleus Carniolan bees: E. F. Atwater Co., 1, \$10.00.

Best single-comb nucleus Caucasian bees, E. F. Atwater Co., \$10.00.

AN EXHIBIT SHOULD SHOW MORE THAN HONEY ALONE

BY J. P. LUCAS

If every beekeeper would try his best to make a good exhibit at the fairs the attention of the people would be called to honey in an effective way, and they would be more apt to use it. It is necessary to go further

than setting up a long row of jars of honey. Next year I shall try to get a premium offered for the best display of food cooked with honey, and of canned fruit. I also expect to have a collection of different kinds



J. P. Lucas' exhibit at the Kansas State Fair. Mr. Lucas, for several years, has featured fruit canned with honey. Some of the jars were filled in 1911, and the fruit is still keeping well.

of honey produced from different honey-plants. The more we can adopt these new ideas the more we get out of the old rut.

The illustration shows my exhibit at the State Fair at Hutchinson last fall. My space was about thirty feet in length; and if it had not been so far from my home I should have made a larger exhibit. As it was, my bees and fruit in the glass hive convinced many people that bees cannot destroy fruit.

In the center of the exhibit I had all my different kinds of honey labeled according to the source. Just below this was the fruit put up with honey in 1911. I have made canned fruit a feature every year, and have had some of it on exhibition every time. It is keeping well, and I have convinced a good many of the value of honey for canning. By request I had the recipes printed.

Topeka, Kan.

RIGHT AND WRONG WAY OF ADVERTISING HONEY

BY JOHN W. LOVE

Advertise first in your local newspapers. Your own town and county are likely to prove easiest developed of all markets because of low transportation costs and your own position in the community. Too many overlook possibilities in advertising right at home.

After that, use papers in neighboring towns and then the city dailies, depending on your capital and selling plan. Farm

papers are probably not as suitable for reaching the honey-buying public as the newspapers and general magazines.

Keep at it. If possible advertise at least once every week to keep the demand steady. An occasional advertisement is likely to be the most expensive in the long run.

In writing your advertisements, make plain in your headline what you have to sell. Such headings as "For Sale," "Notice,"

and "To the Public" are too general. The exclamation-point has no place in an advertisement. Avoid in headlines such smart-Aleckisms as "Don't Read This."

FOR SALE

Good pure honey made by our own bees.
Choice comb and extracted.
Will sell cheap.

ALEX. MCPHERSON
R. D. 7

Head too general and matter uninteresting.

It is well to insist on having your advertisement set up in good style. Avoid heavy borders and glaring "boldface" type. The style of the type should be consistent throughout—that is, don't have the printer use one kind of type for the heading and three or four others in the body of the advertisement. People are likely to realize such an advertisement is not in good taste without knowing exactly why.

Avoid having too many display lines. After the heading, it is well to follow up with a paragraph or two on honey rather than a number of short fragments one above another. The second of the "horrible ex-

PURE HONEY!

60-lb. can, \$6.60

Wm. ARNDT
Ganges, O.

Poorly set up. The various type styles give bad effect. Honey will not retail in such large packages.

amples" on this page illustrates the point, while in the first the sentences are not complete.

It should hardly be necessary to say, keep everything else than honey out of the

advertisement. If you have eggs or hogs to sell, advertise them in another place.

Change your advertisement frequently. A change will attract attention, give pleasing variety, and cost nothing extra. It is not infrequent to find the faults of such examples as the two on this page perpetuated thru issue after issue of a paper.

Generally it is best to name the price of your product in the advertisement. Even the people who are interested often forget to inquire for prices, and the effect of the publicity is lost. If the figures are given they can order at once.

Honey-producers who sell to the retail trade thru the grocery stores or direct to the consumer find that honey must be put up in small containers. The average family would have no use for a sixty-pound can of honey, even if father could raise the money. A one-pound jar is not the smallest size which can profitably be put up, honey-distributors have found. By making the larger quantities a little cheaper in price per pound, their sale is encouraged.

Try to have your own advertisements read as naturally as tho you were talking to a friend about honey. When you sit down to write a selling talk, imagine yourself earnestly arguing honey with a prospective customer. Naturalness goes a long way in publicity. Being natural creates confidence. The writer who attempts unusual effects without long training is likely to make his readers suspect that he is trying to "put one over." Even so, clearness in thought is usually the mark of highest skill.

In pointing out the characteristics of honey, appeal to the love of children, one of the most universal of human feelings. Make it stand out so plainly that any one can grasp the meaning. What is good for youngsters ought to be good for grownups.

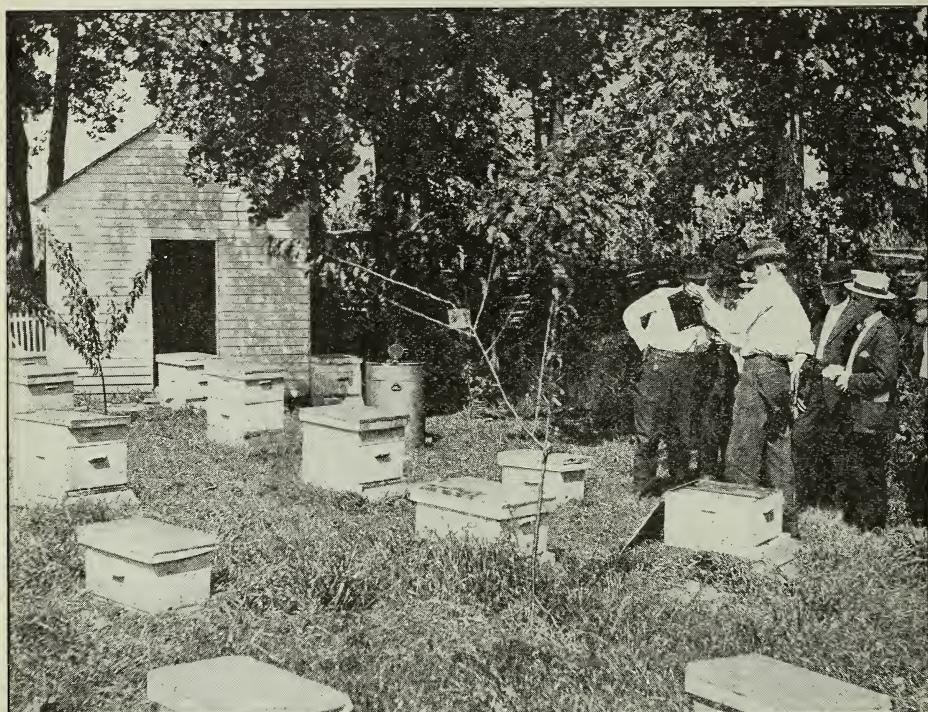
Perhaps the reason honey is so often regarded as a table luxury is that honey-producers themselves often fall into the habit of looking at it in the same way. To get the public out of this rut, compare honey with other foods from the standpoint of price as well as appetite.

INSPIRING TEACHERS WHO WILL INSPIRE BOYS

BY C. S. RHEA

Realizing the desire of the rural population, especially the young boys of the country schools, to drift to the cities, the superintendent of public schools of Hart County set apart Sept. 10, 1915, as "farm day," and required the teachers to carry their schools to some farm near by, which was

used to instruct the children on "better farming," and to arouse an interest in farming. The superintendent visited all the schools of the county that day, with a company of Hart County high-school professors, and the editors of the *Evening Post* and *Farm and Family*, both of Louisville,



Demonstrating bees to a bunch of high-school teachers.

Ky. Mr. James Speed, editor of *Farm and Family*, gave a talk on sweet clover. Then I invited them to visit my apiary. After being with me about fifteen minutes they went on to the next school.

Mr. Speed was very much interested in my scales, which consists of a steel shaft resting on a pivot fastened to a tree, with a hive on one end and a weight on the other. The shaft has 1-lb. notches on it,

which enables me to keep tab on my apiary. A tin bucket with a brick in it answers for a weight. The scales may be seen just beyond the extractor, in the picture.

The small hives in the foreground are my queen-mating nuclei. They have a division in the center, with an entrance at each end. I use full-sized Hoffman frames. I can leave my queens in them all the season if I don't have a demand for them.

Horse Cave, Ky.

POSTER-STAMP IDEA FOR INCITING THE HONEY APPETITE

BY JOHN R. POMEROY

I think if Walter S. Pouder has had difficulty in getting some one to pay attention to his letters before, he has struck a chord in the Feb. 15th issue, page 151, that ought to stir every beekeeper who is interested in getting a better market and better prices for his products. I am in the advertising business, and I have been cudgeling my brain for some solution to the question of raising money for advertising honey, and I must confess this scheme of Mr. Pouder's looks good to me.

While I agree with him that the clover head does not make an especially pleasing picture for this purpose, still I would not be in favor of a non-honey-producing flower for an engraving of the kind. Suppose we offer a premium to GLEANINGS' readers for suggestions. We ought to get something pretty good somewhere among all this gray matter. For that matter, nearly all the large engraving houses will now furnish sketches for poster stamps as well as make up the finished plates to work from. By all

means let's give it a trial, anyhow. There is not a beekeeper in the country who could not use a hundred stamps to advantage, and I know of several in this county who could use thousands. It would certainly mean a tremendous boost for the honey business. The money to be derived from these stamps

would, of course, be used to start a national advertising campaign along the line of "cream of wheat" and others, and afterward some kind of plan might be devised to get each producer to contribute according to the amount he was benefited. What do you say, honey-men?

Gladwin, Mich.

SOME OF MY ADVERTISING SCHEMES

BY DR. A. F. BONNEY

If the beekeeper with a moderate number of colonies wishes to save in advertising he must first get in with one or more papers near his home town, and send them "news"—local stuff which the editors will be glad to pay for with three dollars' worth of advertising in preference to giving up a dollar cash. In season I advertise, using short snappy items. For a sample: "I am now taking off some very fine white-clover honey, and you would better engage yours. It will not last long." This is enough for once. I try to change weekly, and one or two lines is enough, for everybody will read one line while but few will pay attention to twenty.

It will, of course, do no harm if, in the height of the honey season, you use a good-sized space for a standing advertisement, say a space two columns wide and five to ten inches deep, and a cut of some kind will add materially to the drawing power of the advertisement—say a cut of a large bee or a skep. Do not try to put a history of bee-keeping into this space. A simple statement that you have some good, clean, pure honey for sale will be enough unless you see fit to print a price list. I hardly approve of that, however, unless you deliver the honey personally or by mail. The average purchaser of any kind of goods dearly loves to have them delivered—anything from a spool of thread to a diningroom set.

All this is contingent on being able to furnish news to the papers; and to do that, all you will need do is to see the editor. You may not have the "gift" of writing, nor do you need it.

Here are a few samples of the matter I get into the papers to advertise honey. In these I do not mention my own goods, for I am the nearest honey-producer; and if, when people want honey, they will not respond to former and current advertising, my time has been wasted.

"A curious experiment. Take a loaf of home-made bread. Cut from it a slice. Cover one side with good fresh butter, and on that put a thick layer of honey. Give it to the first child that comes along. The in-

stant assimilation of the compound by the kid is the joke."

"A queen-bee weighs a matter of ten grains, and \$1 is an average price for her. At that rate a thousand-pound steer would sell for \$717,000."

"A queen-bee does actually nothing but lay eggs, and will deposit from 1000 to 3000 per day. I am trying to study out some plan by which I can cross the bee and a hen. Think of 3000 eggs a day for three months at present prices."

"A colony of bees often produces a surplus of 200 pounds of honey per year, which, at only ten cents a pound, means \$20. Honey often sells for 20 cents a pound."

"American honey is the best in the world, and is, generally, sent to all parts of the world. A matter of \$25,000,000 worth is produced annually—three times the salmon and double the orange sales, and the output is increasing rapidly."

"When a queen-bee is less than two weeks old she goes out on her wedding-trip; returning, she never again leaves the hive except to accompany (not lead) the departing swarm."

Any one with a knack for writing can get up an unlimited number of such paragraphs, and almost any newspaper man will gladly print them, as they are interesting facts. There is no objection to using the above for the good of the beekeeping world.

I have kept some track of the advertising I have done in four papers for the past year for the store and the honey; and at four lines to the paper per week and 5 cents per line, it totals a money value of about \$40.

In addition to this I have something to advertise—"Bonney Honey" on every envelope I send out, if nothing more than the little red sticker, "Eat Bonney Honey." From May until I am sold out in the winter I use a price list, as I do a considerable mail-order business.

Some beekeepers objected to the little red sticker, "Eat Honey," when I offered it to the beekeeping world. The logic of events

has proven them wrong, for they are now sold by the millions, and the demand is increasing, I am informed.

The suggestion has been made that we beekeepers put out a writing-tablet with a honey advertisement on the cover. The first question that arises is: "Who will pay for printing the covers?" In our store we sell a writing-tablet 6 x 9 inches in size, 1 $\frac{1}{8}$ inches thick, weighing 1 $\frac{1}{4}$ pounds, for five cents, and make 20 per cent profit. It has a red cover on which is printed "I am it."

What could be put on the cover that would convey any message of value to children under fourteen years? and out of an assortment of twenty makes of tablets how could we induce the child to buy any particular make?

Like the little red sticker, "Eat Honey," scriptural quotations regarding honey, and

literature regarding the food value of honey, there is an element of good in the idea; but the only way to use it will be to induce some manufacturer of tablets to get out a natural-history series of tablets with pertinent paragraphs about bees and honey, if it is possible to do so.

The tablets cannot be sold by dealers in beekeepers' supplies, for children do not go there. Drugstores, bookstores, and general stores are where such things are most sold and must be kept. I do not know how many school children there are in this county, but there are thousands.

Personally I think a sign on a building, "Eat Honey," where the children can see it daily, would do as much good as a few writing-tablets scattered about the county. However, advertise, and keep eternally at it.

Buckgrove, Ia.

CHEAP ADVERTISING

BY TARLTON-RAYMENT

When we are of an analytical turn of mind and probe into some of the weaknesses on the business side of apiculture, the first thing that arrests our attention is the negligence of many apiarists regarding the value of their stationery as a means of advertisement. Some may suggest that we attach far too much importance to mere scraps of paper; but from our viewpoint the subject is well worthy of more earnest thought than is usually bestowed upon it. To enter upon a disquisition as to the value of judicious advertising would be to labor the point unnecessarily; but since striking, well-printed stationery (labels of all kinds are included in the category) may be the means of scoring some beneficial publicity, not to provide it is to throw away foolishly that which more astute managers spend huge sums to secure.

Of course there are thousands of keen bee-farmers who fully realize the advantages to be thus gained, and who incur considerable expense; but I am honestly of the opinion that the average "honey-grubber" is far and away too careless. I frequently receive communications that give anything but a good impression of the writer's business—usually a cheap plain envelope destitute of any attempt to keep the sender's business before the recipient. The same criticism can be directed at the writing-paper.

The printing of gaudy, bombastic claims, and hyperbole, is ill advised at any time; but a well-set-up head, especially a neat

pictorial one, nowise detracts from the businesslike appearance of the epistle.

A large number show a predilection for a "cut" depicting a queen-bee. However, such a picture conveys but little to the outsider: and, if of small size, often passes quite unnoticed. On the contrary, a neat etching of the apiary may be made to exhibit notable esthetic judgment on the part of the owner, and, as such, arrests attention and evokes admiration. The latter are the prime requisites in all successful advertising schemes.

Some make use of a "catchy" word or phrase, very successfully, tho of course the benefit that follows is not then due to any artistic appeal but to the whimsical or other presentation. Some few refrain from printing anything other than a bald announcement of name and address, arguing that such a course is undignified. Many would suggest a hesitancy on the apiarist's part to acknowledge the source of his livelihood. From time immemorial apiculture has claimed among its devotees men of high attainments. Then why should not we, humble "grubbers of honey," extol the wonders of the bee? All the foregoing remarks apply with equal force to bill-heads, menus, labels, etc.

In the every-day conduct of our business we are particularly careful to see that all correspondence and goods are despatched with a tradesmanlike finish. Shall we be pardoned if we suggest that a streak of the artistic in our composition is, perhaps, re-

sponsible for our insistence on this point? We not only utilize a half-tone etching for all our paper and labels, but we also make use of play on a registered word. The envelopes read:

*From T. RAYMENT,
Breeder of Queenly
Queens.
"Queenlea" Apiaries,
Briagolong.*

It is not rare for us to receive mail from overseas inscribed simply with our name and that of the apiaries, such is the value of a novel word.

All our honey packages have labels that reach right around the tins; and when they are standing in a shop or on a wharf or at a station they make a splendid advertisement. We have repeatedly booked orders from people quite unknown to us personally, but who had noticed our honey *en route* to other districts.

As examples of what we consider effective designs I am forwarding an original drawing of a post card advertising or boasting



Post card for use in selling honey. Designed by T. Rayment, Briagolong, Victoria, Australia.

honey. Of course, all bee-farmers are not draftsmen, so we are sending this one along because there is a call for such an article in GLEANINGS—p. 167, Feb. 15. With your permission, Mr. Editor, we should like to enter it for the gold-medal, prize card, hearty approval, or whatever it is, Messrs. H. L. Case, F. Greiner, and W. F. Marks award for good post cards.

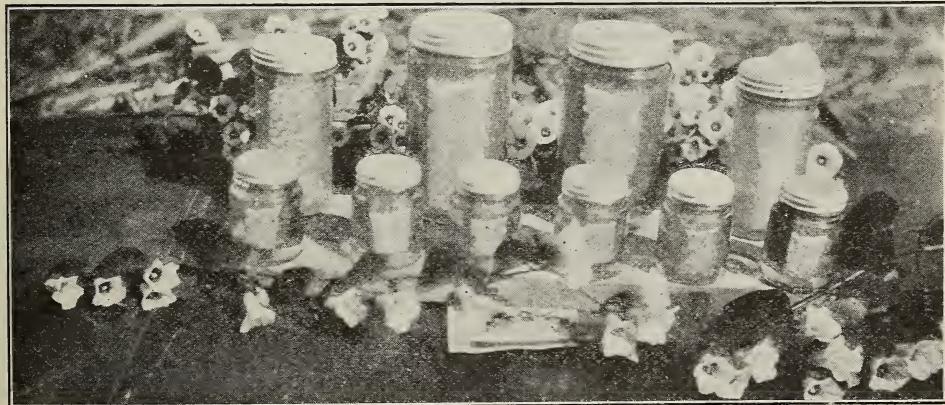
Briagolong, Vic., Australia.

BULK COMB HONEY IN GLASS TO ATTRACT SALE

BY D. W. MILLAR

I use the accompanying pictures of bulk comb honey in glass in advertising my honey. I have found that honey in this

form will sell even to people who do not like honey nor advise its use. At the same time, honey in glass without comb, and at a

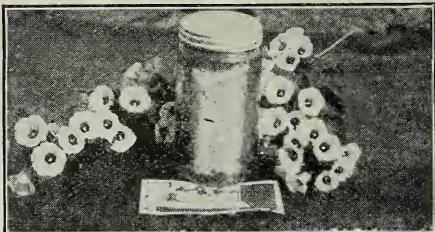


Bulk comb honey in glass is attractive.

lower price, will not sell. Of course, later on those who get to using honey and acquire the habit so that they become regular customers buy the plain extracted honey in gallons and even larger cans.

This honey is from the *campanilla blanca*. I have adopted the three-ounce, the half-pound, and the one-pound jars. Situated as I am, larger sizes show too much breakage, both on the empties shipped here and on the full jars which I ship out.

Holquin, Cuba.



Campanilla blossoms and a sample of what the bees get from them.

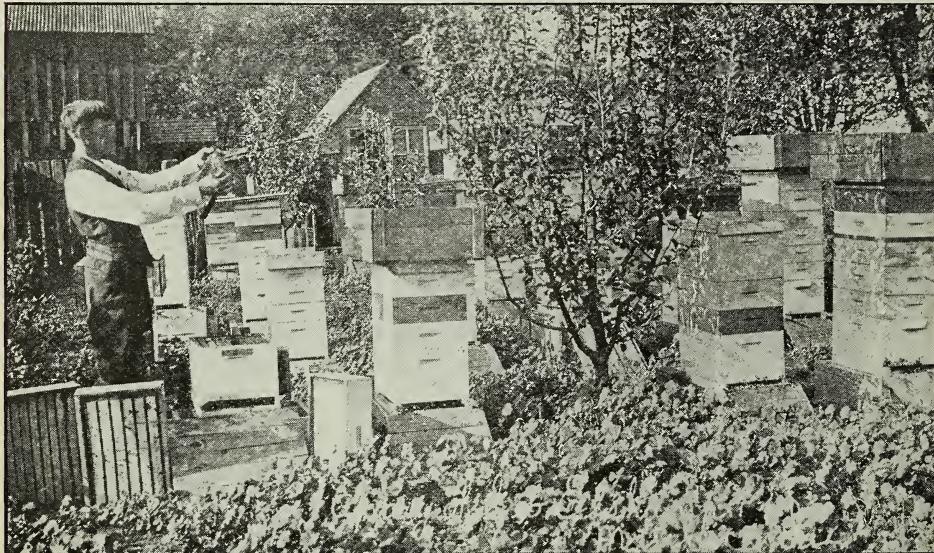
PHOTOGRAPHIC POST CARDS TO SELL HONEY

BY GEORGE H. ELSKAMP

Last year I took off 3000 sections and about 1000 lbs. extracted honey from twenty colonies, spring count. My queens are

Practically every colony also had a super not finished.

Maurice, Iowa.



Copy of one of the illustrated post cards that George H. Elskamp, of Maurice, Ia., uses to help sell his crop.

nearly all leather-colored Italians, but quite a number are mated. One colony had its 12 supers in all; another colony that was preparing to swarm I divided, and it had 18 supers and one hive-body between them.

[Mr. Elskamp uses post-card views of his apiary, bees, etc., with appropriate inscriptions for helping sell his honey. The 4000 lbs., mostly comb honey, from 20 colonies, spring count, is not a bad record!—Ed.]

AN EXHIBIT THAT PAID

BY M. H. HILL

I have been a beekeeper for 20 years, and there is no branch of the business than I take more pleasure or pride in than the marketing of a crop of honey, coming in personal touch with customers, either retailers or consumers.

At the present time I have charge of oil property and beekeeping is a side line. In this I have been handicapped in meeting customers and having a chance to talk honey. The opportunity presented itself last fall, when our first county fair was held at

Dewey. Knowing in advance the dates the fair was to be held I obtained consent from my employers to have my vacation at this time, and, assisted by my wife, we prepared 1000 lbs. of our crop for this exhibit. Most of my honey is put up in the bulk as recommended by Mr. Louis Scholl; and I wish to say, in thanks to Mr. Scholl, that putting up bulk honey has always been a success with me.

Even in Northern Wisconsin, where I began the practice, I always marketed my No. 2 section honey this way, obtaining the same price as received for No. 1 section honey; but in Oklahoma conditions are more favorable for putting honey on the market in bulk. Putting up honey in glass containers in an attractive shape is no piker's job, and no one should attempt it without having proper utensils for doing the work.

The managers of the fair allowed me to sell honey the last afternoon of the fair.



1000 pounds of bulk comb honey exhibited by M. H. Hill at the Washington County (Okla.) Fair. Mr. Hill made his exhibit educational in that he showed every stage in honey production—the full combs in observatory hives of bees, uncapping, extracting, clarifying, and bottling.

My exhibit sold in a few hours, and the advertising this exhibit gave me well repaid me for the effort. The sales at this one fair, and the advertising it gave me, made it possible for me to own a five-passenger Overland touring-car.

Dewey, Okla.

HOW THE BEE HELPS FEED THE WORLD

BY B. KEEF

The January number of the Geographic Magazine is devoted almost entirely to a most interesting and liberally illustrated article entitled "How the World is Fed." It is not possible in a limited space to review this exceedingly instructive article in detail, but as beekeepers we are specially interested in the following; which is copied in full:

"The Industrious Bee."

Nowhere else in the world is the majesty of small things more strikingly revealed than in the story of the production of honey in the United States. That great decennial interrogation-mark which marches every ten years thru the homes of the American people, and asks them a thousand and one questions, has ascertained for us that the bees of the country annually produce twenty-seven thousand tons of honey. That means fifty-four million pounds! Truly the busy little bee must improve each shining hour to give to the American people fifty-four million pounds of honey, in addition to providing

for its own needs. The number of trips from hive to flower, and from flower to hive, with their tiny loads of honey-making materials that the bees must have taken to bring us these fifty-four million pounds of honey defies estimate; but they afford us an inspiring lesson of what the faithful doing of small things may accomplish."

Note the sentiment of the closing lines.

When the time shall arrive that beekeeping is the business of specialists on a large scale, these figures will begin to appear small by comparison.

What is really to be desired is not more beekeepers but better beekeepers, as has been so often said; and the only hope seems to be in keeping bees on a larger scale by most advanced methods.

New Jersey.

[The census figures are very conservative. Reliable estimates show that the total amount of honey produced—including both comb and extracted—is not far from 200 million pounds.—Ed.]

Heads of Grain from Different Fields



THE BACKLOT BUZZER
BY J. H. DONAHEY

Henry Appleblossom has a new patent pending. He has an imitation honey that is nearly as good as the real thing; and, by gosh, it costs only three times as much to make it.

Bees Creatures of Habit.

It would seem that there are more influences than at first appear which are given effect by the placing of supers above a colony of bees. During a generous honey-flow many things may be done which, under other conditions, would not be at all advisable.

"Ample superage" is recommended to lessen swarming, and it usually seems to have that effect, be it more or less. But to secure the best result in that direction, supers must be put on considerably in advance of any sign of swarming. Then if outside temperatures should be rather low (usually at night) this large empty space above is very likely to hamper brood-rearing and active "building up," and the bees come to regard that space as something which they "have to put up with," very much as we would regard a vacant upper story in our house which we would come in time to regard as not belonging to us.

If the farmer has great barns, and an immense hay crop, he just goes ahead storing hay into those barns, and does not worry about their bigness; but in ordinary or lean circumstances he is likely to calcu-

late where he can stow to the best advantage what he has, and it is safe to say it won't be scattered or stowed in some far corner.

In regard to their housekeeping, bees appear to acquire habits somewhat like human beings. This colony goes and comes via the right end of the hive-entrance, that colony from the left; this one establishes its brood-nest on the left, while the next has it on the right side of the brood-chamber. One colony is possessed to gum up the rabbets, while another gums up the bottom-board; this one stores honey in the outside frame, while that one stores pollen there. Naturally, when the flow becomes generous, the bees, having acquired the habit, continue to store in the brood-chamber until "it's standing room only." It is scarcely necessary to point to the result of this in diminished brood toward the end of the season, when extensive brood-rearing is most desirable to provide young bees for winter.

The moral of all this is that we should first decide whether then it is profitable to rely upon excessive supering to discourage swarming, or to treat that as a separate problem, and add supers but little in advance of present need, whereby no habit of storing in the brood-chamber is induced. From the 1914 season's experience as here suggested, the writer is inclined to be strongly in favor of the last proposition.

To sum up, let us say excessive supering seems to have much the same effect as insufficient supering—the bees in one case storing below from choice (and habit), and in the other case from necessity—the happy medium being most desirable in order to get surplus stores where wanted.

Lyndhurst, N. J.

B. Keep.

The Percentage of Mismated Queens Received from Breeders.

I gave this matter up years ago. After spending a considerable amount in stamps, and wasting a lot of energy in a futile endeavor to secure something like uniformity, after appealing to bee-journals and experts for assistance, I found that I was simply traveling around in circles. In the absence of a fixed standard, breeders can pass off almost anything upon their customers with comparative impunity. There are, of course, breeders who are reliable, who have brought their stock to a high standard, as bees go, and who are conscientious in their business dealings; but a great many are those who have simply failed as honey-producers, and turned their attention to queen-rearing. These, having neither the requisite training nor a location where pure mating is possible, are, by glowing advertisements, distributing an inferior strain of bees thru an already non-uniform stock.

Los Angeles, Cal. Arthur Williams.

Are Moldy Combs where Bees have Died Fit to Use Again?

Of 30 hives from last fall I have at present only 11, all in good order. The 20 that are dead I cleaned out today and both hives and combs are very moldy, due to the moisture of the adhering bees. The frames are nearly all of the old V shape, and I wish to discard them. Is the moldy comb still fit to be used to make into new foundation?

Some of the frames are Hoffman, with wires and good comb. What can I do to get the bees out of the cells? Do you think that these frames could be used again, even tho they are somewhat moldy?

R. A. Dehmel, M.D.

South Germantown, Wis.

[The combs you refer to can be used over again. The fact that they are a little moldy, or contain dead bees in the cells, will do no harm. The bees will clean them out, dead bees and all, very readily, and use them over again. Of course, any combs that are crooked and otherwise undesirable should be melted up.—Ed.]

How to Transfer from a Log.

While cutting logs in the woods we cut a bee-tree. They were in a limb about two feet in diameter, and about 50 ft. from the ground. We cut a block off about 6 ft. long; stopped up the hole with mud, and hauled it home. Now the puzzle is to get the bees into a hive. We were in hopes of getting a swarm; but as none has left so far we should like to hive the bees that are in the log. If you could suggest any way it would be greatly appreciated.

Youngstown, O.

Paul Walters.

[We should treat this log gum exactly as tho it were a box hive, and transfer by the Heddon method. You will have to pound a little longer and a little harder because the trunk of the tree, being thicker, is a little harder to get the bees out of; but if you persist we think you can do it without much trouble. It will not be profitable, at any rate, to keep the bees in the log, for you will not be able to get any honey from them—that is, fit for table use.—Ed.]

How to Handle Combs after Extracting.

E. S. Miles' article, p. 721, Sept. 1, touches on a very interesting and important subject. How would it suit Mr. Miles to bore, say, an inch hole in his escape-boards and fit it with a tin slide which could be operated from outside the hive, and then, when extracting, leave the escape-boards in place and in the evening return the wet supers and open the slide? When the bees have cleaned up, close the slide and remove when the super is empty. Of course it does not do to leave escapes too long on hives or they may be stuck up by the bees. Personally I don't favor any plan which involves a general mix-up of the wet combs for fear of spread-

ing disease if such should get a footing unknown to the apiarist. By this plan the bees clean their own combs. It may be a bit slow, and mean having a lot of escape-boards; but is not that better than risking spreading foul brood all thru the apiary before one is aware of its presence?

J. H. Todd.

Renwick, Blenheim, Marlborough, N. Z.

Two and Three Eggs to the Cell; What is the Trouble?

I hived two swarms of hybrids on their old stands, moved both hives (parent colonies) away yesterday several hundred feet. One swarm had issued Thursday, the other last Monday. This morning both queens were dead, and one hive had over 150 dead bees before it.

I purchased three untested Italian queens late last summer, one being O. K., very prolific, and swarmed. The second one was also very prolific, and I have now two supers on and no sign of swarming, but I now find two or three eggs in a cell. The third one did poorly after I put her in, altho she had quite a few bees at the opening of spring. But they dwindled down so till there wasn't a pint in the hive, and then I discovered many cells with two or three eggs and quite a few with four or five. There were no laying workers, for I found both queens and killed the one in the weak colony, and then found no more eggs. But then I found the other one doing the same thing.

C. A. Colell.

Lincoln City, Del., June 5.

[In the case of the two hybrid swarms it is evident that the bees became more or less mixed, with the result that there was some fighting in the uniting. The fact that there were so many dead bees in front of one of the hives would indicate that there was something of this trouble. Why both queens should be dead we can't understand, unless one or more of the virgins went forth with the swarms. In that case the virgins would destroy the old queen. Virgins are usually not hatched when the swarm issues. The probabilities are that you would find young virgin queens in both the hybrid colonies, and laying by this time.

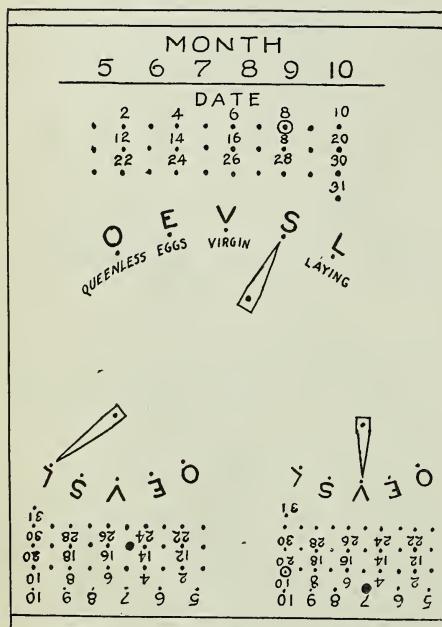
We assume that the three untested Italian queens referred to in the next paragraph have nothing to do with the two hybrid swarms.

The fact that their colonies are not swarming may be a good indication, but the further fact that you find two and three eggs in a cell indicates perhaps that the old queens have turned drone layers, or it may indicate that honey has been coming in, and the queens cramped for room so they are laying two and three eggs in a cell. This does not very often happen, however. The intimation that all three of the colonies have two and three eggs in a cell rather indicates either laying workers or drone-laying queens, but it is a little remarkable that all three

colonies should be afflicted with the same trouble. Without looking into the hives we are not able to offer you any satisfactory explanation.—Ed.]

Hive Indicator.

The illustration represents the cover of my eight-frame hive divided into three two-frame nuclei for queen-rearing. You will notice that all records for dates can be kept by using two small nails—one for the month and the other for the day. The pointer indicates conditions; O, queenless; C, cell; V, virgin; S, saw, but not laying; L, laying. I use a small brick as soon as laying begins, so I can see at a glance where my laying queens are, clear across the yard. The bricks I use are $2 \times 4 \times \frac{1}{8}$, made of cement; and I use them exclusively on full colonies when requeening.



Correction: Instead of E for eggs it would be better to have C for cell.

Forest, Ont.

I. Langstroth.

Requeening for Paralysis.

I want to give my plan of getting rid of bee paralysis. This disease got in my bees from queens that I bought. I hated to kill these fine queens, but soon two-thirds of my colonies were affected. At this time about half of them were black. I tried several plans, but it kept coming back. I finally found a plan that eradicated the trouble, and I am willing for others to try it.

Kill the queen, and eight days afterward cut out all the queen-cells that have been started, and provide eggs from a queen that has never had paralysis. Let the bees raise

their own queen in the hive right with the sick bees. They will not swarm out, even if they have a dozen cells. This plan gets rid of the trouble, and it will not return.

I have some colonies that have never shown the least sign of paralysis, altho bees from colonies all around were dying. It is these colonies that I get the eggs from for breeding.

No doubt some queen-breeders do not pay enough attention to this matter. They are careful to breed from stock that does not become diseased. Colonies headed by such queens will live right in the midst of these and not show the least sign of it.

Mathews, Ala.

M. S. Nordan.

The Liability of Express Companies in the Shipment of Bees.

If I sell to John Doe, Canada, swarms of live bees with queens, f. o. b. Fitzpatrick, Ala., and I deliver them to express company, get their receipt for the same and mail it to John Doe in Canada, and there is unwarranted delay, is the express company liable if bees are dead? In 1915 and 1914 like shipments were delivered in three days and four hours to same party after leaving here. This year the bees were on the road from 8 to 16 days, and were dead, or nearly so, when delivered. The question is, Should John Doe pay me for bees I sent him, and he, John Doe, look to express company for value of bees not delivered alive? Or should I not look to John Doe for price of bees, and express company pay me? I refer you to my ad. in Gleanings.

Fitzpatrick, Ala.

W. D. Achord.

[An express company comes under the laws and is a common carrier. While it may receive goods, issuing a receipt which does not agree to land the article received at destination at any specific time, yet there is reason in all things, and the express companies, thru the operation and contracts with the railroads over which they operate, maintain published schedules.

Shipments are based a great many times on these schedules, expecting (aside from the acts of God), goods to reach destination at least within a reasonable number of hours of their schedule time.

From points, for instance, within the territory in which we are located, termed the central states, there is no point within the United States and a greater part of Canada that schedules do not show that shipments may be reached not to exceed seven days; schedules for the Pacific Coast in about five days, these figures allowing a little time for unavoidable misconnections. From points within the state of Alabama to any point in the territory of Ontario, Canada, allowing for above delays, excepting acts of God, shipments should be delivered in not to exceed five days.

Shipments from such points, especially in the case of perishable live stock or live bees, 8 to 16 days would be considered a basis for claim in the eyes of the law, excepting

causes for delay on account of the acts of God.

The fact that the receipt given by the express company or any common carrier does not specify any specific date of delivery does not relieve the carrier when its employees are grossly negligent in the handling of shipment, thus causing these delays. Usually the common carrier will settle claims of this nature where they have no good reason for such delays. They are wise to the fact that the courts would not sustain them.

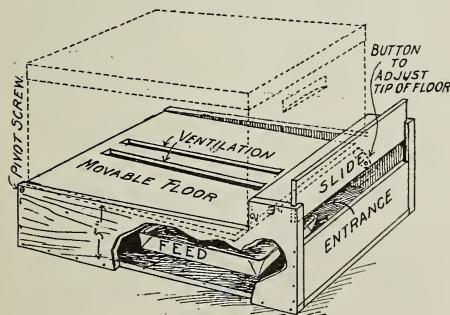
Generally speaking, we would consider four to ten days' time taken over and above what is termed a carrier's schedule is basis for claim and can be collected.

In the case above cited your customer would be the one to make the claim on the express company, and the customer pay you for the bees; but it is getting to be more and more the custom to make the claim in behalf of the customer because the shipper knows the procedure better.—Ed.]

A Double Hive-bottom.

For three years I have used fifty double bottom-boards of my own design, as shown in the illustration. At first I expected the bees would build combs between the two floors, but have had no trouble along this line. I made these principally for convenience in moving during hot weather for a buckwheat honey-flow, but I like them so well that I intend making two or three hundred more, altho I do not expect to do as much moving in the future as I have in the past.

The lower floor is solid, while the upper one, which is really the floor of the hive, is movable so that it can be shifted up or down as needed for ventilation, or, if required, it can be taken out altogether. There are two openings in this upper floor $\frac{3}{8}$ of an inch



wide, running from front to back. These may be covered with a strip of tin or roofing paper if desired. Thru these openings the bees can go down to a feeder shoved in between the two floors. They will take syrup from a feeder located in this bottom quite late in the fall.

In the swarming season I lower the upper floor in front so that the bees have about a 3-inch entrance. I also leave the two slots

open and pull the floor ahead so there is about a one-inch opening at the back besides. This gives abundance of ventilation, which goes a long way toward discouraging swarming.

The movable slide controls the size of the entrance outside the vestibule; and when moving I can replace this slide with a screen.

Smithville, Ont. Lewis Minor.

Can a Colony Clean up American Foul Brood?

Have you ever heard of bees cleaning up American foul brood? A case has come to my attention that I should like to have your opinion on.

About three weeks ago I found two cases of American foul brood in a neighbor's apiary. One was bad and weak, so he killed it. The other he started to transfer, but noticed that the bees were cutting out some of the cells containing the diseased brood. He then let it go and called my attention to it. Sure enough, they had cut some out—usually destroying the walls connecting at least two adjoining cells. The colony is in fine condition, and the first heavy honey-flow is on.

There is no doubt as to its being American foul brood, tho I had a hard time convincing the owner of it after they had started cleaning up. Even now, he wants an expert's opinion on it. My own opinion is that he took a splinter and mussed up the diseased brood, enlarging or even breaking the cell. Could this account for it? or is it that they are very strong and making an attempt of their own?

Ramona, Cal., May 18. C. A. Quincey.

[While a vigorous strain of Italians will help clean up European foul brood, it is very seldom that they can handle American without assistance from the owner. Usually it is required to remove all infected material, either by removing the frames entirely or by cutting out pieces of the comb in the frames and substituting foundation instead. Occasionally a very powerful colony will clean out even American foul brood; but there is always danger that the disease will reappear again in a year or two. We always think it advisable, whenever the disease is found in any set of combs, to melt up all the combs even if only one or two cells appear. We have never known of a time yet when a strong colony cleaned out American foul brood, but what, if that colony was left long enough with the same set of combs, the disease would reappear again in one or two years hence, so it is well to err on the safe side.—Ed.]

European Foul Brood in San Diego Co., Cal.; Apicultural Nomenclature.

Many bees here in San Diego Co. are dying from European foul brood. I can't understand why one swarm of bees should be called a colony or the cells on foundation called "drawn." My bees build white cells on dark foundation. Am I too particular?

Potrero, Cal. Geo. W. Riker.

[According to the latest dictionary, a colony is a collection of bees at rest, and keeping house in the hive. A swarm is a collection of bees that has issued from the parent colony, and is usually called a swarm as long as it is in the air or on a tree, and for a few days after it is hived. The old colony is called the parent colony, and the new one is called a swarm until it gets down to its regular housekeeping duties. Then it is called a colony.

Cells that are built from foundation are often spoken of as "drawn." Where the foundation is very heavy, and there is a large amount of wax in the cell walls, the cells themselves may be drawn—that is, the bees use only the wax in the foundation. As a general rule, drawn comb from foundation is made up of wax taken from the foundation itself, and wax added thereto from other sources. If honey is coming in freely, the wax used to complete the cells may be the virgin scales taken from the under side of the wax-pockets of the bees themselves. These will be white like the paper on which this is printed. It will, therefore, transpire as in your case that the tops of the cells will be whiter than the foundation on which they are built.

Very often the bees take their tributes of wax from other combs. In that case the top of the cells will take on the color of the combs next to them. Comb-honey producers always have to take this into account; and this is one reason why the comb-honey supers are entirely separate and apart from the brood-nest containing darker combs. In the olden days, when we had wide frames containing sections, they were placed first in the brood-nest, and the cappings of those sections would often be as dark as the comb next to them. The solution of the problem, then, was to produce comb honey, not in the brood-nest, because of its discolorations from brood-combs, but in the super or upper story; and the practice is now all but universal.—Ed.]

A Good Place to Begin Advertising

My home is in Grand Rapids, Mich., but I spent the winter here at Hammond, a town of about 4000 inhabitants. I started out one morning to find some honey for table use. I went first to the largest grocery in town. On inquiry they said they were quite sure they had some. The clerk found a fruit-jar of honey—price 30 cts. for a pint-can. He took the top off to show up the goods; but, to his astonishment, he found it granulated. He said, "I don't know what ails it, or what makes it look that way; but if you want a can I think I can find one that is all right."

I told him the granulated honey didn't scare me. The next grocery had some honey in tall bottles holding about 4 oz. There was no comb honey at either place.

The next grocery had no extracted honey, but six one-pound sections piled one above

the other lying down flatwise. He said if I wanted that he would surprise me on the price of it, and make it 10 cts. each. It was dark and light mixed; had lain in the dust I don't know how long, and most of the honey had leaked out.

After all that has been said and done thru the bee-journals I didn't suppose there was a town of this size with practically no honey in sight.

E. S. Dart.

Hammond, La., Jan. 17.

Penny Wise and Pound Foolish to Let Comb Honey in Groceries Granulate.

In the discussion on increasing honey sales I do not think enough stress is put on the customer's loss thru buying candied honey. This year my honey was all sold by Feb. 1. I usually have it the whole year round. One of our family the last of March saw in a first-class grocery in Boston what seemed to be a fine section, and he purchased it for 25 cts. When he reached home it was candied solid, and moths had worked all around the wood. If I know anything about honey it must have been at least two years old. Such a sale as that queers the customer from buying any more honey for a long while.

A section of mine that I have just found has one side sealed and the other side full but not capped over. This was exposed to the New England winter with all its fluctuations without granulation. Any honey that I put in the stores I watch, and at the first symptom of granulation I exchange. You may say it would be impossible for a large producer to do this; but that does not affect the loss of customers by such sales. It is just the same as selling rotten fruit. A man who does that soon comes to his finish.

Woburn, Mass.

E. C. Newell.

\$575 in Premiums at the Michigan State Fair.

At the last meeting of the Michigan Beekeepers' Association a committee consisting of A. G. Woodman, E. D. Townsend, and Ira D. Bartlett, was appointed to draft rules and regulations to be used by the Michigan State Fair. As superintendent of the bee department I am pleased to state that the fair authorities have adopted the recommendation, and I am enclosing a copy for publication.

If the maximum amount of premiums is won by beekeepers it will amount to \$575 as against \$132 offered last year.

The fair authorities have ruled that no honey, wax, or supplies will be allowed to be sold prior to the last day of the fair. This rule has not been lived up to in the past, but will be strictly adhered to this year. There will be a further announcement made later, and all beekeepers in Michigan and adjoining states are urged to exhibit.

Detroit, Mich., May 2. E. B. Tyrrell.

[The complete recommendation and premium list appears in Convention Notices, this issue.—Ed.]

A. I. Root

OUR HOMES

Editor

Know ye not that your body is the temple of the Holy Ghost which is in you?—I. COR. 6:9.

Whatsoever a man soweth, that shall he also reap.—GAL. 6:7.

I the Lord thy God am a jealous God, visiting the iniquity of the fathers upon the children unto the third and fourth generation of them that hate me.—EX. 20:5.

Our older readers will remember that when GLEANINGS was first started I commenced a good-natured "war on Christian principles." Almost as soon as I became interested in bee culture somebody told me the only way to handle bees successfully was with smoke; and a little later somebody said that tobacco smoke was ever so much better than any other kind of smoke; and pretty soon a young man said he was going to learn to smoke so that he could always have it handy to use on bees. I protested then and there, and then went right to work to make a better bee-smoker than the world had ever used. I have told the story several times, but I will simply go over it briefly.

Well, I told this young man that if he would promise not to use tobacco I would make him a present of a bee-smoker. I think there were then about half a dozen men and boys present, and they put a joke up on me. Another young man said, "Can I have a smoker too on the same terms?"

I assented. Then finally the whole crowd took it up, and I replied something as follows:

"Yes, friends, each one of you may have a fifty-cent smoker free of charge if you will give up the use of tobacco and give me a promise that I can print in GLEANINGS that, when you use it again in any form, smoking or chewing, you will pay me back my fifty cents."

As a matter of course the names of those who made the pledge were printed in the journal, with an explanation. In due time my pledges came from all over the United States, not only from the men and boys, but from several ministers of the gospel, and from quite a few women. The names of all these people, amounting to quite a little over 1000, are given in our back numbers. Just a few paid back the fifty cents.

Now, altho all this happened about forty years ago, I hardly think there has been a year since that I have not had some stranger grasp my hand and tell me what he owed me for having given up the use of tobacco. When I visited H. A. March, away up in Puget Sound, I saw on the mantelpiece a bright new Simplicity smoker, and he informed me it was the one I gave him, years

before, for breaking off tobacco. He said he had never used the smoker, but kept it up there in plain sight as a daily reminder of what he owed his old friend A. I. Root. He told me the story something as follows:

"Mr. Root, when I got that smoker I was having a nervous breakdown. My hand shook so much that I could hardly write a letter. The doctors did not seem able to help me. When I saw what you said about tobacco I grasped the idea as a drowning man grasps at a straw. Now look here. Can you hold your hand any steadier than that?"

Then he held his hand up before my face. I replied, "To be sure, I cannot, for yours is as steady as a piece of cast iron."

Let us now come down to the present day. A month ago I received the following letter:

Dear Mr. Root:—Knowing how you feel on the subject of excessive use of tobacco, we are sending you a copy of the new book by Prof. Mac Levy, which we believe will be very interesting to you. Even if you are busy, we hope you will try to take a half-hour to look thru this volume. It is being endorsed by eminent educators and physicians. There is actually a need for such a volume, considering the tremendous amount of damage that is being done by tobacco at the present time.

New York, May 9. F. K. THOMPSON,

Secretary Albro Society.

I found the book referred to beside the letter, and gave it a rather hasty going-over; but I get so many books to review besides looking over the great mass of agricultural periodicals, that it is next to impossible to read any book clear thru. After giving the book as much attention as I could find time for I answered the letter as follows:

Many thanks for the tobacco book. Thirty or forty years ago we sent out and gave away several hundred books discouraging the use of tobacco. With the present fight against strong drink, our Anti-saloon League had thought best to let up a little on tobacco, altho we are still waging war on cigarettes, giving away the books put out by Ford, Edison, and others.

By the way, I was a little surprised—perhaps I should say pained—to notice the author has little or nothing to say about the help that Christianity gives one to break off any bad habit. I did notice one suggestion—that if a man was going to succeed he was to stop swearing. That's well and good; but in view of the great work that Billy Sunday is doing in the way of reformation from strong drink and tobacco, should there not be a little more recognition of divine help?

I heartily endorse the instruction you give, and, by the way, will not such a course help greatly in overcoming any other bad habit—all sorts of "dope," for instance? May God bless and prosper you in the great undertaking.

By the way, just one thing more occurs to me: The matter came up some time ago as to whether our Ohio Experiment Station should teach our Ohio boys how to grow tobacco. I said: "God forbid;"

but Director Thorne, when the matter was presented to him, said he entirely agreed with me, but added something like this: "While three-fourths of my colleagues in the Experiment Station are users of tobacco, what is one to do?"

Medina, O., May 16.

A. I. ROOT.

Very soon after the above, came the following answer from the author of the book:

My dear Mr. Root:—I am personally answering your letter of the 16th, because it is so exceedingly interesting to me.

With reference to the fact that little is stated in my book, "Tobacco Habit Easily Conquered," about the help that Christianity gives in breaking off a bad habit, I will say that it was my natural desire to deal strongly with this subject, but I found it necessary to condense most of my thoughts in that line to the "Dictum of Dictums," which you will find on page 95 of my book. The publishers felt that it would be necessary for me to refrain from going into the religious element to any extent in the first edition of the volume. Their rule was based on the same theory that would probably hold you from speaking much about religion when writing an article upon bee culture. Do you see the point? Nevertheless, I know that you will agree that the trend of my work is invariably toward *that which is good*.

In training persons to apply themselves to the resources of nature to take care of themselves generally, and to observe the spirit of doing good to others, I am teaching Christianity. Do you not think so, Bro. Root?

Of course, you can quote from my book as much as you like. Accept this letter as full permission.

I wish I had an opportunity to talk with you about the real seriousness of the tobacco curse. The whole world is coming under its thraldom. The tobacco industries are piling up immense fortunes by poisoning people with nicotine. The appendix in my book is up-to-date, yet it gives but a small part of the great amount of information that is existent. American missionaries in China, for instance, write that in making laws against opium the Chinese have allowed cigarettes to invade their country. In consequence of this, cigarettes are being used by nearly every man, woman, and child to a far more serious extent than was ever done with opium. The effect upon the Chinese is even worse than was the case with opium. Here in America the sales of cigarettes have increased to an extent that seems incredible. During the first three months of this year the increase over the corresponding three months of 1915 was 1,484,000,000.

In about ten years there is bound to be a terrific reckoning; but in the meantime the tobacco companies are bribing newspapers and legislatures, and everything else, to enable them to promote the sale of tobacco. They have even gone so far as to try to prevent the sale of my little volume by threatening to remove their cigarette advertisements from newspapers that publish the advertisements of my book.

You ask me in your letter of the 16th whether my system for overcoming tobacco addiction could be made to apply to other kinds of narcotic drugs. The rules would need to be modified somewhat for either alcohol or for opium and its derivatives.

In the case of alcohol it is necessary to deal with the so-called "periodical" condition; and, moreover, it is necessary to consider the cases of those persons who are killing themselves with alcohol, but who do not have even the self-respect to wish to be freed from the slavery of it. You see their minds are poisoned. I claim that a large number of such persons can be weaned away from their desire for alcoholic drinks if certain rules are followed. I have been working upon a book for some time past, and will communicate with you about it later on.

I am very much interested in what you write about the Ohio Experiment Station teaching boys how to grow tobacco. I tell you, Bro. Root, the curse has such a strong hold upon the public that only an avalanche of some kind is likely to upset it.

I am working upon an ingeniously devised law which will compel physicians and other officials to report to the State Board of Health all cases of insanity, heart disease, hardening of the arteries, cancer, and other serious disorders wherin tobacco has been the main cause. I do not see how the opposition of the tobacco lobby can succeed when we undertake to get such a bill on the statute books of a state. Our explanation will be that, in view of the many arguments respecting the harmfulness as well as the harmlessness of tobacco, it will be manifestly fair for the state to obtain statistics of its own with a view to such future action as may be deemed advisable. The result of getting such a law upon the statute books would be to load the State Board of Health in each state with a vast amount of important facts proving that tobacco is a dangerous poison. After getting such facts on record in the various states, the next move would be to have stronger laws enacted. It is likely, also, that something could be done with the Federal government.

I wish you would kindly put me on your mailing list, and I shall be glad to reciprocate with a view of co-operating with you more fully. There is some talk about putting my work in a cheaper form, so that it can be circulated inexpensively.

I shall be delighted to hear from you at your convenience.

New York, May 18. M. MAC LEVY,
President Albro Society, Inc.

You may be sure that, on receipt of the above, I was delighted to find the following on page 95:

If you have a religious belief (and I sincerely hope you have) here is the most valuable Dictum of all:

Pray to God daily for whatever aid you may feel in need of, to help you in the simple task of following the rules in this book to a victory over the tobacco addiction.

That God will answer these prayers is certain.

When you are free from the awful thraldom—filled with the exuberance of good health, a clear mind, and the true joys of life—add a few words to your daily prayer that God shall show others the way to longer life and contentment, particularly that he shall stay our boys from ever acquiring the tobacco habit.

The above makes the book all right, and I take great pleasure in making other extracts from different pages as follows:

This book just "had to come." My conscience wouldn't allow me to put off writing it any longer.

Tobacco is used in five different forms—cigarette, snuff, chewing tobacco, pipe, and cigar. I rate their degree of harmfulness to the individual in the order named.

Without discussing the ultra-scientific reasons pro and con bearing on the fact, it is generally accepted that the average cigarette-user consumes more nicotine than any other tobacco addict. One who inhales the smoke is a deeper addict than one who doesn't, but both are "in the trenches."

A TALK TO THE BOY WHO SMOKES.

It was at the beach. A number of boys were lazing. They were having great fun. Three of the boys, in a spirit of bravado, started

to swim to a point of land. It looked simple and easy. But they had been warned of danger and told not to be so foolish as to take such a risk—for Death had caught others there and was still lurking for new victims.

The boys, in their mistaken desire to be manly, and heedless of the danger, kept on. At a place where the sea appeared no rougher than elsewhere, the lads suddenly felt that they were losing control of their feet.

For the first time in their lives they encountered that danger known as an undertow. Experienced sea bathers know of it and they avoid the places where it is liable to exist. These lads, however, did not understand what was wrong. At first they fought to control themselves and to swim to the shore—only a few rods.

They were unable to hold against the terrible and mysterious foe. The undertow caught them and sucked them under the surface of the water, as if a horrible octopus had drawn them into its ugly maw.

Excited observers saw that something was amiss. Two strong swimmers jumped into a boat, pulled sturdily and attempted to save the lives of those boys. One of them was dragged from the water nearly drowned. He recovered afterward. *The other two lads were drowned.*

Think of the agony of the parents and friends! Two boys who were finding life full of good things and who were growing into fine manhood, became victims of the cruel enemy that was concealed beneath the innocent-looking surface of the sea. Two lives were thrown away. You will agree that the affair was horrible. *A tragedy without excuse.*

This brings me to the point where I can tell you about another danger which exists all around you. I mean the cigarette habit.

You learned it for the fun of the thing, probably in the spirit of "don't take a dare." You thought it would be manly to know how to smoke. You saw other boys doing it.

In the appendix to the book there is a large amount of matter in regard to cigarettes, and the effect of tobacco on the coming generations. I select only one of them. As you will notice, it bears on the point made in our last text.

As a matter of fact, the number of conceptions in smokers' families exceeded the number in the other class, but the loss by still births and miscarriages was twice as great—which fact is in line with Dr. Lichtry's inductions from the United States census figures.

Additional tables of figures give the information that wives of tobacco users suffered, in excessive numbers, abscesses as well as abortions.

From the above you will notice that the one who deliberately decides to use tobacco not only impairs his own usefulness here, in this world, but he bequeaths to his unborn children a handicap that may follow them more or less all their life.

I found a printed slip inside of the book which reads as follows:

TOBACCO HABIT.

The mother or wife who has a loved one addicted to smoking, chewing, or snuff-taking, will be delighted to know that a book has been published which should convince any man that his health and efficiency will be greatly improved, and his life lengthened, if he gives up the use of tobacco. This book is entitled "Tobacco Habit Easily Conquered." It tells how

to overcome the addiction, without drugs, quickly and pleasantly. Those interested should write to Albro Society, 181 Lexington Ave., New York. This volume is bound to bring happiness to many homes. It is a handsome book of 155 pages; price \$1.25.

In closing, let me mention just two or three illustrations from what I have seen of tobacco during the past forty years. My own father smoked until his health broke down so he was about to give up his business. Somebody told him to try giving up tobacco, and I am sorry to say the advice did not come from the family physician. Now, my father was quite stubborn and contrary; and when somebody suggested that he could not get along without his pipe even if he should try to, he showed his "Root spunk." But he did give it up, and in just a few weeks he began to flesh up and look happy, and the people joked him about growing young instead of growing old. He lived about twenty-five years after that breakdown. Once more:

Our family doctor, E. G. Hard, of Medina, gradually failed in health, and was finally confined to his bed. A council of able doctors, one or more from the great city of Cleveland, came to his bedside, but could not tell what ailed him. He was told he had but a few days to live. Not long afterward I met him on the street. Of course I started to see him out looking bright and fairly well. Before I could express my astonishment the doctor said something as follows:

"Mr. Root, I owe you an apology."

I was more perplexed than ever; then he added:

"You wonder to see me up and around, and of course you want to know what miracle brought me back from death's door. Well, the upshot of it all is I took the advice you have been giving me for years, and stopped one of my bad habits."

"Why, doctor," said I, "what 'bad habit' do you mean?"

"Yes, Mr. Root, the confession I have to make to you is that I smoked pretty much all the time while in bed. It was the only thing that gave me any relief from my pain. When the doctors failed to find out what the trouble was, it occurred to me that I might try giving up tobacco. I did so, and here I am."

"Why, doctor, do you mean to tell me it was the use of tobacco that dragged you down by slow degrees to death's door, as you call it?"

"Yes, Mr. Root, it was tobacco and nothing else."

The good doctor lived for several years after that.

Now, in order to be strictly truthful

something else must be added to the above. You would suppose, of course, after the above confession, and with renewed health and strength, the doctor would never touch tobacco again. The above is well known, or I would not publish it; but some time afterward a woman said that Dr. Hard was again smoking. I told her she must be mistaken—it could not be. When I overhauled the doctor he said he smoked only a little—only once in a while.

I mention this matter in order to illustrate how loath Satan is to lose his clutches when he once gets a man in his grasp. One more instance:

A prominent member of our church had brief periods of blindness. The doctors could not help him; but when he cut out tobacco all of those bad symptoms disappeared. He told about it in prayer-meeting, and gave it as a warning to the younger ones. Well, somebody told me that this man was again using tobacco, and he gave as an explanation that he smoked a little when he called to see his old father. He said it did his father much good to sit down and have a friendly smoke with him. Once more:

A certain druggist with whom I have been well acquainted pretty much all of my life was taken with nervous prostration. He was not able to do business nor anything else. In fact, it made his life a burden. His father-in-law, with whom I was also well acquainted, was a physician. Now consider how difficult it is for a physician to advise a patient to give up the use of tobacco when he himself is using it. But notwithstanding this, this doctor advised his son-in-law to give up cigars, or at least reduce the number, for he was then smoking at least 25 a day. I think he was in the habit of smoking more than he realized. With a bright and smiling face he came to me and told me about it. He knew how I had all my life been opposed to the use of tobacco. As soon as he stopped the use of cigars, all the trouble vanished; and altho many years have passed since then he is now strong and well.

You will notice in one of the extracts I have made, something about the cigarette habit. I do not think any dealer in Medina sells cigarettes; but the boys of our juvenile schools are getting them in some way. Perhaps that notice about getting the names of boys, page 442, will help to explain. Well, reader, how do you suppose these boys found a place out of sight to smoke cigarettes? They got a board loose on the end of the shed nearest the schoolhouse, and went into the horse-shed belonging to the Congregational church to do their smoking.

We found a lot of cigarette papers scattered all over in one corner, out of sight, and our good pastor surprised four schoolboys when they were smoking. Is the Great American Tobacco Co. really bigger than the United States, thus to defy and trample under foot not only our state laws but the laws of the nation? I think the above will give you some vivid illustrations of that beautiful Bible text, "Whatsoever a man soweth, that shall he also reap."

While the matter is up before us let us consider the following, which I clip from the *New York Times* for May 28, 1916:

SAYS GEN. F. D. GRANT WAS CANCER VICTIM; DR. ARBEE BLAMES TOBACCO HABIT, INHERITED FROM FATHER, FOR FATAL THROAT AFFECTION; BOTH CONSTANT SMOKERS; SURGEON TELLS OF EXCESSIVE INDULGENCE AND SAYS HABIT IS TRANSMITTED TO OFFSPRING.

The real cause of the death of General Frederick Den Grant at the Hotel Buckingham on April 11, 1912, was made public yesterday for the first time. He died of cancer of the throat superinduced by the excessive use of tobacco. His father, General Ulysses S. Grant, died from the same cause, and the malignant growth was attributed to the same agency.

The facts regarding the death of the younger Grant are contained in the following paragraph from an article by Dr. Robert Abbé, senior surgeon to St. Luke's hospital (who was with him when he died), on "The Legacy of the Intemperate Use of Tobacco," which appeared in yesterday's issue of *The Medical Record*:

"I could not help reminding him (a patient) that one of our great national heroes smoked incessantly, as every one knew, and suffered and died from the consequence of disease of his throat. His distinguished son, also heroic figure in our army, adopted the same habit, smoked equally incessantly, and suffered and died of the same terrible consequence. This is a heavy price to pay for the intemperate indulgence of such a throat-irritating and unnatural habit."

I close this paper on the tobacco habit with the following:

PROMOTION ONLY FOR THOSE WHO NEITHER DRINK NOR SMOKE.

We clip the following from the *Sunday-school Times*:

SCHWAB'S REPLY.

...Let each man prove his own work. General Wheeler was talking with Mr. Schwab, head of the great steel combine, and we asked him, "Is it true that in these big corporations, other things being equal, the man is promoted who neither drinks nor smokes?" Mr. Schwab answered that that was the invariable rule in dealing with two or three hundred thousand employees under him. "When two men," he said, "Men equal in skill, preference is given to the abstainer and non-smoker.—From *The Christian Herald*. Sent by J. A. Clark, Greetland, Halifax, England.

The above is a surprise to me in two ways. First, that we have in our land an institution that employs the enormous number of between 200,000 and 300,000 men. Second, that our great factories, railroad companies, and other institutions have begun to comprehend not only that a drinking

man should not be promoted, but that the man who smokes is to be discredited as well. Now, I should like to know whether this means the man who smokes during working hours or the man who smokes only while on duty. I do not believe that there are any

at present among our two or three hundred employees who smoke during working hours; but it pains me to see how many *young* men as well as old knock the ashes out of their pipes when they come up to the office door to mark their time.

HIGH-PRESSURE GARDENING

HAND CULTIVATORS—SOMETHING NEW.

When I spoke about hand cultivators on page 505, June 15, I had not noticed the advertisement in our issue for May 1, page 13 of the advertising department, of the Barker machine. I humbly beg pardon, not only of the manufacturers of the machine but of our readers as well, for failing to scan *our own* advertising pages a little more closely. I have now been using one of the little Barker machines for three or four days, and it almost seems to me that this is going to bring about a revolution in gardening without the use of horse power. Not only here in the North, but clear down in Florida there are thousands of people who hesitate about going to the expense of a horse for market gardening.

A year ago I spoke of the need of a gas or electric motor to supply power, especially for the use of young boys or old men like myself. The advertisement I have referred to makes this statement: "A boy with a Barker beats ten men with hoes." This sounds pretty strong; but where your garden is free from stones, clods, and trash, a smart boy might come pretty near the above. The picture of the machine explains it. Those ten steel blades chop up the weeds in advance of the steel scuffle-hoe that follows. Where the ground is just right, say just after a rain, even here in our Medina stubborn clay soil you can run the machine as fast as you can walk; and the ground looks, after the machine has gone over it, almost as if it had been passed thru a sieve.

Another very important matter, you can run this little machine closer to all sorts of stuff, say that which is just coming up, or larger, than any other tool I ever got hold of. Most cultivators will throw chunks of dirt on the plants, perhaps knock them over, and, if a rain comes shortly after, they are very much injured. This tool can be tipped so as to run close to the plants without doing them any injury or disturbing the roots, and at the same time cut off or chop up every weed. It also knocks the dirt from the roots of the weed so there is but little tendency for it to take root and start again.

We are often told that the weeds should be killed before they come to daylight—that is, before they have time to start and get above ground. And this is very good instruction. But what are you going to do when it rains as it has been doing here in Medina so far this year (as well as last), so it is only now and then you can get on the ground with either plow or cultivator? After the weeds once get up, say two or three inches high, the only remedy I have ever known is a sharp hoe. But this little machine beats a hoe with a vengeance. But you will have trouble if your ground is stony, especially where there are stones about the size of a hen's egg. They will get between the two blades of the scuffle-hoe, and then the machine will stop suddenly. Cornstalk stubble that was not plowed under, or the roots of docks, etc., also make trouble.

Now, I think I have made an improvement in the use of the machine already—at least the manufacturers of the machine have not mentioned it so far as I know. I was so anxious to try it here in our garden that I started out before the garden was sufficiently dry. The consequence was, the steel blades and the iron wheels that hold them were soon covered with clay that dried on; and our clay is of such a tenacious nature that when it dries on anything one will almost need a hammer to make it let go. After cleaning the blades and other parts a few times so they would do good work I got the oil-can and greased the thing all over. Then I rubbed off the oil and mud until the metals were clean, and gave it another coat of oil. Since then the machine has kept clear from the accumulation of clay very much better, and I think the blades will ultimately get scoured bright and smooth.

There are three sizes of the machine—6, 8½, and 11 inches. Mine is the 8½ size. Where your garden stuff is planted wide enough apart to permit using a horse, you want to make about three trips in each row. First, go clear up to the plants on the right side and then on the left, and then down through the middle; but if you can go as fast as you can walk comfortably, it does

net take very long to put your whole ground in beautiful cordition. If your corn and other stuff is planted in hills, instead of drills, there is little that needs to be done with a hoe. Perhaps I might add that I paid \$6.20 for my machine, the same as other people pay, so that you may not imagine that I get anything free for having given the machine this write-up. I think it is going to prove a boon indeed, especially to old people like myself who work in the garden.

"IN THE SWEAT OF THY FACE SHALT THOU EAT BREAD."

Last, but by no means least, let me say that for some time back I felt that my strength was gradually failing—not particularly when I was at work in the garden, but when I undertook to read the letters piled up on my desk, and especially to read as I ought to read the books and papers and clippings that the many kind friends are sending to me. I tried to work in the garden, but some way my strength did not seem to hold out. In fact, running the cultivator I have previously mentioned, especially when the ground was rather wet, seemed to be almost too much hard work. After I got this new machine I have been describing I was so much pleased with its workings that I did not stop, even when I was tired. Rain was coming again, and I wanted to do all possible before it was again wet. Pretty soon I was in a profuse perspiration. In fact, the sweat was dripping from the end of my nose. I hung my cap on a post and went up and down the rows bareheaded: and pretty soon I struck what the boys call the "second wind." Our older readers will remember my mention of it in speaking of climbing Mount Wilson, in California. That text in the Bible, "He paweth in the valley and rejoiceth in his strength," occurred to me. Instead of becoming tired out I began to draw in great breaths of the beautiful fresh air, and did not feel tired a bit. I nearly finished the whole garden before dinnertime. I ate a hearty dinner, and then took a good long nap, and then was ready for more "gardening." The next day the muscles of my arms were sore; but I took another "dose" of the new cultivator until I was once more dripping with sweat; and now my aches and pains are all gone, and I feel as if I were getting a new lease of life. In fact, I had been praying over the matter of my health, and my prayer was answered.

By the way, I think I should mention right here that a few weeks ago I was thoroughly examined by the medical examiner belonging to a life-insurance company. You see it is quite "interesting" for the life-

insurance companies to have an old man like myself live as long as possible, and, accordingly, he makes examinations without any fees on my part. He gave me some disinterested advice. Well, after I had had a good long talk with this up-to-date doctor he said something as follows:

"Mr. Root, about all the fault I can find with you is that you are 76 years old."

After the doctor and I had had this good long "visit" I happened to mention that I was conducting a health department in our journal; and later on I submitted to him the article on page 1001, Dec. 1, 1915, and I asked him to give his opinion in regard to the soundness of my teaching. He replied later that the best evidence of the soundness of my teachings is the fact that I have lived to be 76 and still keep my strength and the use of my faculties to such an unusual degree.

Well, now, friends, here is the moral to my long story. I was suffering because I had not been getting sufficient exercise so as to sweat profusely thru the pores of my body. Of course the enthusiasm awakened by the use of that new cultivator had something to do with it. Several times I urged my good friend T. B. Terry to take even more exercise every day right out in the open air, winter and summer; and in accordance with the latter I urged him to take a trip down to Florida, where he could be outdoors in his shirtsleeves every day in the year. The last time I talked with him he claimed that the air in his room (with his ventilating and "humidifying" arrangements) during the wintertime was as pure as it was outdoors. But I did not quite agree with him.

As the insurance doctor bade me goodby he said something like this:

"Mr. Root, if a kind Providence should permit me to live to be 76 years old, and to retain my bodily strength and the use of my faculties as you seem to have, I shall be devoutly thankful."

Just one thing more:

The doctor mentioned asked me about my meals. I told him that for the last five years or more my supper was grapefruit and apples, with a little cheese. He replied very emphatically, "That is just the very best thing for you; and if a lot of other old men would stop eating three square meals a day, especially after they give up hard work, a great lot of them would live longer, and enjoy life far better."

IRISH POTATOES 70 CENTS A PECK.

Here we are again, friends, this last week in June, with potatoes at 70 cents a peck, or \$2.80 a bushel. I have for several sum-

mers back urged that Irish potatoes could be grown by starting them under glass here in the North at a big profit; and several times the reply has been, "Oh! this is an exceptional season." But for several years there has been a period between old potatoes and new ones when the retail price on the market was from 60 to 75 cents a peck. I have not grown them under glass here in Ohio, because we do not reach here until about May 1.

I spoke last season about the Early Six Weeks potato, stating that it was free from scab, and more free from blight than any of our other varieties. We not only had beautiful Six Weeks potatoes all thru the summer and fall, but I shipped a barrel down to Florida, and we had them to use pretty much all winter. For some reason they did not sprout so I could plant them until so late that only a few were fit to dig when we left there the middle of April. At the end of a letter to my "long-time friend" A. T. Cook, of Hyde Park, N. Y., I wrote as follows:

I am greatly surprised to know that your season is so much ahead of ours here in Ohio. I have not seen a potato here in our part of the state above ground as yet. I planted some Early Six Weeks nearly two weeks ago, but not a potato up yet.

Medina, O., May 25.

A. I. Root.

Below is his reply:

MY EARLY SIX WEEKS POTATOES.

I commenced using them on my table June 8. They are super-delicious. I dug some today, June 17. They are nice and big. Two weighed 12 ounces.

This has been one of the latest, wettest, and most backward seasons I have ever seen, or the potatoes would have been ready to use several weeks earlier. They were planted in the open ground about April 8. I think there never was another potato of such high table quality as the true Early Six Weeks, and they are the best keepers I ever grew.

Hyde Park, N. Y., June 17. A. T. COOK.

I quite agree with what he says about the Six Weeks being not only a high quality but a splendid keeper. Hyde Park, N. Y., is further east and north than Medina; but by taking pains this Six Weeks potato could easily be grown in Ohio during an average season so as to be put on the market in June. As proof of this, Mrs. Root says a woman in our neighborhood told her about the middle of June that she had early potatoes in bloom planted in the open ground outdoors. Very much can be accomplished in getting early potatoes by having a sandy or gravelly soil sloping to the south, fully exposed to the sun, but sheltered from the west and northwest chilling winds.

A GLIMPSE OF OUR FLORIDA GARDEN.

I think I have already explained that I wrote to our Florida Experiment Station,

asking what crop they would advise during the summer time after taking off potatoes in the spring. Here in the North, we should use clover; but as it does not seem to stand the heat and heavy rains of Florida summers, Prof. Rolfs advised corn and velvet beans, and I took pains to inoculate the beans with the nitrogen bacteria. Below is a brief report of how my experiment is turning out.

Your garden looks fine. I have not seen anything else in Florida to equal it, and nothing in the North to excel it. The ears of corn are beyond my reach, and the velvet beans are immense.

Bradenton, Fla., June 2. C. L. HARRISON.

FLORIDA REAL-ESTATE SPECULATORS — TWO SIDES TO THE MATTER.

Both winter and summer I am having a lot of inquiries in regard to investing in real estate in Florida; and my invariable answer is that no one should think of investing a copper in Florida lands without making a trip and looking things over and getting facts from old residents in the vicinity. Notwithstanding, thousands upon thousands of dollars are being invested in lands which the purchaser has never seen, and many times in lands they never will see; and I am glad to note that most real-estate agents nowadays request people to come and look over the premises before buying. I also have frequent inquiries in regard to certain real-estate companies, especially if they are located in Manatee Co., where our Florida home is. Well, I almost always turn these letters over to my neighbor, E. B. Rood, who deals in real estate aside from his business of truck gardening. One question comes up often, like this:

"Mr. Root, can you find out if these men are responsible? and will they do all they agree to do?"

Now, it gladdens my heart to have Mr. Rood reply frequently something as follows:

"Yes, Mr. Root, I know these parties, or at least I know something about them; and my opinion is that they will do what they agree to do."

With the above preface let me report to you an incident. Some time last winter, just after Mrs. Root and I had finished our dinner, a man arrived in an automobile, taking out with him a couple of heavy valises. He said he had read our journal for years, had purchased supplies of the A. I. Root Co., and had long felt that it would be a great pleasure to meet A. I. Root face to face, etc. Before taking him over the ground, as I usually do, I said I supposed of course he had been to dinner. When he

admitted that he had not, I asked Mrs. Root to prepare something hurriedly while I showed him the garden and the chickens. While he was eating, among other things I asked him how much they charged for bringing him in an auto down to our place. He replied, "Not anything. I told them I wanted to purchase a little piece of land in your vicinity, and they said there would be no charge."

When I expressed some surprise he stopped his dinner to reach his hand in his side pocket, and said:

"Why, look here, Mr. Root; I got a free pass from Tampa. Here are passes over this new east and west railroad."

When I expressed further surprise, and asked him why they gave him this free transportation, he said he was talking of buying some land of a certain company out on the new road. Just here I interposed something as follows:

"Why, my good friend, if I understand you, you have got these passes by representing that you wish or intend to purchase of a company out on this new road, and yet you tell me the garage people sent you down here free, with the understanding that you wanted to buy in this neighborhood."

He stopped eating for a minute, evidently seeing he was caught; but very soon he recovered and replied:

"Mr. Root, this is a free country; and a man can purchase wherever he pleases."

The above seemed to be his version of "personal liberty"—just about the kind of personal liberty the liquor people so constantly harp on.

While the man was finishing his dinner it suddenly occurred to me that he would be going over to neighbor Rood's and getting Mr. Rood to show him the real estate around our neighborhood with *his* automobile. I asked to be excused for a moment to look after some business. The business was to slip over to Mr. Rood's and inform him in regard to the "complexion" of our visitor. Mr. Rood said he had had some experience with that sort of chap, and that I might be sure he would not waste time on him.

After this man had finished I told him to leave his valises with us while he went over to talk with Mr. Rood about the property in our vicinity, and then I went on with my work. Pretty soon Mrs. Root came and told me our new visitor had started on foot back to town with his two heavy valises, and she wanted me to hurry up and overtake him with the auto because of his heavy load. You may think, friends, I was a little unchristianlike when I said, "No, let him travel." She further informed me that he

came in somewhat excited and demanded his valises. When she told him I had put them out in the auto-house he rushed out and put off on foot as described.

"Did he not thank you for the pains you took to get him up his dinner?"

"Not a word of thanks; and he seemed put out because you had set his stuff out in the auto-house."

I do not know but he expected his old traps would be deposited in our best room, and that he would be invited to stay a week, making our home his headquarters. If so, he made a mistake.

I have mentioned the above because I have for some time felt sure the real-estate men—at least many of them—have been unduly censured. I know of two or three cases where they have paid the money back because a customer became discouraged or got the blues, when they had been a good deal out of pocket besides the loss of time. Of course the above is no excuse for unreliable make-believe real-estate agencies, etc.

"GOD'S KINGDOM COMING."

We clip the following from the Cleveland *Plain Dealer*:

DULUTH VOTES DRY; CITY GIVES PROHIBITION 400 MAJORITY; 15,000 BALLOTED.

DULUTH, Minn., June 20.—Complete returns on yesterday's wet and dry vote in Duluth show about 400 majority for the drys, out of a total vote of approximately 15,000.

Under the terms of the initiative ordinance, thus adopted, no more saloon licenses will be granted in this city to run after July 1, 1917. Those now existing will be canceled as they expire.

Duluth is said to be the largest city to vote dry by local option.

LEPROSY A MENACE, EVEN IN THE UNITED STATES.

The following is clipped from the *Daily Commercial* of Three Rivers, Mich.:

Recent investigations show that in South America the conditions are becoming alarming. Absolutely no precaution is taken. Brazil alone has 750,000 cases.

In one village of 1500, one-third of the population were lepers. In this particular village every male leper able to work was employed at making cigars, most of which were shipped to the United States.

It is estimated that there are between five hundred and one thousand cases in the United States. As only eighteen states have laws requiring cases of leprosy to be reported it is hard to get statistics. At present there are two state asylums, one in Massachusetts with ten inmates, and one in Louisiana with one hundred.

Please note what is said in the above about cigars from South America. How about "cutting out" all cigars? What about the class of people who usually make cigars?

POULTRY DEPARTMENT

A BACKYARDER'S DREAM.

Several years ago the farmer who had been shipping us eggs wrote to say his hens were on a strike, and he could not send us any more eggs until spring. This was to us an annoying state of affairs, for the bacon-and-eggs-for-breakfast habit was firmly fixed in our home. We held a council of war—wife and I—and resolved to produce our own eggs, tho at that time we knew about as much about hens as the average beekeeper does of integral calculus or the Sanskrit language.

I knew how to incubate bacteria, and could care for chicken pox in the children, so why could I not learn the ins and outs of hens? Then, too, I am always spoiling to be making something with tools and working with my hands at some outdoor task. This is my gymnasium work, and it pays me so well in health benefit that I could well afford to lose money in my outdoor hobbies. Of course, as wife says, my hands do not always look as nice and feel as soft as a doctor's should, perhaps, but I am not of the soft-handed class; and unless I work physically I am not happy or well.

The henhouse was built—a lean-to at the side of my garage, 9 by 18 feet, with a large lot behind for a range. A part of my garden lot has trees; and about these a space of 30 by 70 feet was fenced for the young stock.

My original flock was 12 hens and two cocks bought from a neighbor at one dollar each; a choice strain of White Wyandottes, the hens from a well-known breeder of the fowl who wins many prizes in the shows, and the cocks from a distant breeder famous in poultry circles as a prize-taker with this breed of hens. I considered it a good bargain, and offered to me only because my neighbor had sold his place and had to dispose of his birds because of no place to keep them.

I bought two incubators, and made some fireless brooders. We began hatching early in order to learn the work and be prepared for failures. I sent also for several settings of eggs from well-known concerns offering this breed, hoping to mix in the best blood I could find in making my stock as strong and nearly right as possible.

I will not detail the various experiments and costly mistakes we made the first year. I will not tell how we tried Runner ducks and White Leghorns; how the rats killed some of our flocks, or about the several troubles we had with white diarrhea, sore eyes, etc. It would make too long a story.

The book-keeping department of the enterprise was carefully attended to, and the end of the first year showed that the hens had paid for their own feed, paid for the plant, and we went into winter quarters with a flock of 120 fine birds, carefully selected from some 400 that were hatched.

The hens and pullets were again culled down to about 60 by selling all not laying by the first of January. This has been my rule for the several years I have conducted the hen-plant on our back yard. I have culled, first, for shape and appearance, health, vigor, etc.; and, second, for winter-laying tendency.

The second year, I discarded the smaller indoor fireless brooders for a colony brooder built in the large sunny room of our basement where the furnace keeps the temperature at 70, and the heater run by natural gas does the rest of the heating. This eliminates the many units. I have, since this plan was used, one unit, except at breeding time, for the grown stock and one unit for the young chicks. Such a plan greatly reduces the time required for the work.

The second year the books showed a profit of \$157.50, and we went into winter with a few more than 100 birds.

As soon as people knew of what fine success I was having with this strain of White Wyandottes many wanted settings of eggs. We also sold a good many day-old chicks locally, the making no effort to sell by mail. We never tried for show prizes, merely striving to build up a strain of winter layers that any backyarder might establish a paying plant right at home and have plenty of eggs when they are hard to find of good quality, and in price from 40 to 60 cents a dozen.

The third year the books showed the net to be over \$350, besides we had built another henhouse 16 by 18 feet at the rear of the garage. The buildings are made of tile, and are warm, well ventilated, and dry. I feed mostly commercial "scratch" and dry mash of bran, corn meal, and meat scrap, with plenty of green stuff, using in winter sprouted oats, beets, small potatoes, and cull apples. I am near large greenhouses, and easily get lettuce, cabbage, and celery scrap for the labor of gathering it.

The new house will enable us to run a 200-hen plant; and with a little advertising effort, and still further care in breeding this strain for winter laying, I feel sure that from this on we may easily make \$500 a year from the hobby—such as we call it—that was started somewhat in spite because a farmer failed us in supplying eggs. Hens will pay in winter, and I have proved this. I admit it may take years to breed the flock to a winter-laying status, and I confess one must give them intelligent care as to feed, warmth, exercise, etc.

Any back yard with a flock of fifty hens, attended as I have cared for mine, can from the eggs and meat buy all the feed, and have a profit that will go a long way toward reducing the cost of living. I can show any one willing to work a little with the hands, and use a little of that so-called gumption, how it may be done.

They may talk about the American eagle, or the birds of paradise, the beautiful pheasant, the strutting turkey—of the peacock with his wonderful tail; but the real bird—the one that gets my admiration and respect—is the faithful winter-laying White Wyandotte hen. Her song is sweeter to me than any fabled nightingale, and her fruit—she is known by her fruit.

So it was not a dream, after all.

Youngstown, O. DR. C. E. BLANCHARD.

There are two expressions in the above letter that hit my case exactly. 1. "I am always spoiling to be making something with tools, and working with my hands at some outdoor task." Again, "Unless I work physically I am not happy or well." In regard to the soft hands, and always looking and feeling nice, it is not many days since Mrs. Root gave me a regular overhauling because of my dirty hands. She said I would have to get a good stiff brush and some soap, and get the black dirt out from around my finger-nails, etc. I think I did something of the kind; but before the day was over I got hold of a choice plant that had to be set out carefully; and our best soil, even in Florida (that is, where I have doctored it year after year so as to get it in shape to make things grow) gets in and around the finger-nails when you get right down into the dirt, and so it takes a great deal of scrubbing to get it out. A

good deal has been said about chickens and gardens in the saving of expense; but where anybody goes at it—man, woman, or child—in the way the good doctor tells about in the above, it will surely pay in the way of better health, better eggs, and a profit besides.

THEY LAID IN SPITE OF THE SWEET POTATOES.

In the Poultry Department, March 1, you mention sweet potatoes as being the cause of the hens suspending their laying. I have fed my hens sweet potatoes, boiled and mixed with bran, for their winter breakfast for some years, and had eggs to sell all winter. Of course I never fed them all they would eat. Some folks will tell you that to feed your hens peas will stop their laying; yet my daughter fed hers nothing but peas this past winter, and had just as many eggs. Of course they had free range.

MRS. AUGUSTA TREMPER.

Linden, Texas.

THE RECENT MILK WAR IN CHICAGO, AND
SOME OTHER THINGS.

I clip the following from the *Rural New-Yorker*:

The question confronts us "What are we going to do to avoid such conflicts in the future?" That we are held in better repute than heretofore is sure; but whether we can get a living price for our milk is the question. All over this country, milk is the one food that is sold below its real value as food. Compare it with any food you please, and it is, considering its food value, sold cheaper. We have left the marketing of our milk to others, only to find that its food value is not known, and that not a dollar has been spent by these distributors to inform the people of the vital force contained in this, almost the only uncooked food we have today. That the food elements of milk have vital qualities in the maintenance of life and growth is beyond question, and yet the city of Chicago consumes \$20 per capita of liquors to \$5.75 of milk. Our milk merchants, who should have been telling this story, have failed, and we find our market less than one-third what it should be. They have had but one thought, and that has been to fatten on profit. They have had invested less than \$25,000,000 in their plants, and have employed but 4000 men to do their work, while we have had more than \$250,000,000 invested in production, and employed 40,000 to make the milk and feed. They have sold the milk in Chicago at eight cents per quart and five cents per pint, and paid us on an average for the year three cents per quart. Can we longer stand such service, or must we undertake the marketing of our product?

There are three points made in the above than I wish to consider. "Almost the only uncooked food we have today." I did not think of it till just now; but milk certainly is, as a rule, uncooked food, and I suppose our readers all know there has been first and last a good deal of talk and perhaps a good deal of truth in the importance of making one's diet, or at least to a great extent, on uncooked food. At least one good-sized book, and perhaps several books, have been devoted to the matter. Well, honey is also, as a rule, uncooked food, and both milk and honey have the sanction of

Holy Writ. "Butter and honey shall he eat, that he may know to refuse the evil, and choose the good."

The second point made in the above is that beer and other liquors cost on an average \$20 per capita in Chicago, while milk costs only \$5.75. May God help Chicago if this is indeed true; and I think we may rejoice to know that just now milk is rapidly taking the place of beer. Great factories and railroad companies are taking measures to have their employees drink milk instead of beer.

Last, but not least, we are told that in Chicago, where the consumer pays from 8 to 10 cents per quart, the producers, the farming people, get now, or have been getting, only *three cents* per quart. If this recent war should end in giving the hard-working farmer (who works, not only eight hours a day, but close on to *twice* that much) more than he is now getting, we shall all rejoice. The men, women, and children who devote their lives to the production of pure, clean, wholesome food for mankind should have good pay; and anything that can be done to shorten the distance and the difference in prices between producer and consumer is real *missionary* work. We expect that staple articles of food are sold, as a rule, on a very small margin of profit. Of course, it costs something to handle milk, keep it pure and clean and unadulterated, and handle it quickly. But I am sure there is no need of a profit on it of 200 or 300 per cent.

In our Florida home we pay 10 cents a quart, and the money goes directly to the producer. He gets the whole of the 10 cents. He not only gives us the nicest Jersey milk I ever tasted, but he gives such good measure we would willingly pay him more than 10 cents if he would take it. Perhaps I might mention the fact that this good neighbor is E. B. Rood, the strawberry man. He keeps a fine grade of Jerseys which furnish manure for his strawberry-beds, and enables him to furnish his customers both milk and strawberries. He used to furnish *honey* also; but he has now turned the honey business over to another good neighbor, Mr. A. E. Ault.

THOSE PICTURES ON PAGES 485, 486, 487.

Perhaps some of the friends who read GLEANINGS may like to know "who is who" in the pictures mentioned above. Well, it is the family belonging to "Blue Eyes." Mr. Arthur L. Boyden, her husband, is coming from the express office, and their three children, Ralph, Helen, and Wynne, are accompanying him. On page 487 we get a glimpse also of Allen I. Root, Ernest's youngest—the "A. I. R." of the future, kind Providence permitting. I might remark that Wynne Boyden, sixteen years old, and a little taller than his father, is now teaching his grandpa how to run his new automobile.—A. I. R.

QUEENS

Quirin's Improved Superior Italian Bees and Queens. They are Northern Bred and Hardy. . . Over 20 Years a Breeder.

PRICES	Before July 1st		After July 1st			
	1	6	12	1	6	12
Select untested....	1.00	5.00	9.00	.75	4.00	7.00
Tested	1.50	8.00	15.00	1.00	5.00	9.00
Select tested.....	2.00	10.00	18.00	1.50	8.00	15.00
2-comb nuclei	2.50	14.00	23.00	2.25	12.00	22.00
3-comb nuclei	3.50	20.00	35.00	3.25	18.00	32.00
8-frame colonies	6.00	30.00		5.00	25.00	
10-frame colonies	7.50	38.00		6.50	32.00	
1-2 lb. pkg. bees....	1.50	7.00		1.00	5.00	
1-lb. pkg. bees....	2.00	10.00		1.50	8.00	

BREEDERS.—The cream selected from our entire stock of outyards; nothing better. These breeders, \$5.00 each.

Can furnish bees on Danzenbaker and L. or Hoffman frames.

Above price on bees by pound, nuclei, and colonies does not include queen. You are to select such queen as you wish with the bees, and add the price.

Queens from now on are mailed promptly by return mail.

Free circular and testimonials.

H. G. Quirin-the-Queen-breeder
Bellevue, Ohio

QUEENS!

In the Beginning is where Quality starts

Our breeding stocks, our methods of breeding cannot be surpassed anywhere

If you want to know who we are, read "How to Produce Extracted Honey," also "Modern Queen-rearing," both of which we wrote for The A. I. Root Co., while we were their head apiarist some 12 years ago. Untested queens, \$1.00; tested, \$2.00. Other prices on request.

Geo. W. Phillips, Lebanon, Ohio



ITALIAN QUEENS

Three-banded

From June 1 to November 1

Only 75 cts. each; 6, \$4.00; 12, \$7.50; tested, \$1.00; 6, \$5.00; 12, \$9.00; of an exceptionally vigorous and long-lived strain of bees. They are gentle, prolific, and the best of honey-gatherers. Send for my free circular and price list.

JOHN G. MILLER, CORPUS CHRISTI, TEXAS
723 South Carrizo Street

BEE SUPPLIES Send your name for new 1916 catalog.
Dept. T. CLEMONS BEE SUPPLY CO.,
128 Grand Avenue, Kansas City, Mo.

Forehand's Italian Queens

Gentle, good honey-gatherers, bred for business. Their mothers were imported — the best to be had. If you buy once you will buy always. Just look at these prices. Where can you find better?

Untested, . . . July to Oct. 1, one, \$0.50 up to 25.
Select Untested, " " " 1, .75; 6, 4.25; 12, 8.00
Tested, . . . " " " 1, 1.25; 6, 7.00; 12, 13.00
Select tested, " " " 1, 2.00; 6, 11.00; 12, 20.00

If queens are wanted in large quantities send for prices.

We guarantee that all queens will reach you in good condition, to be purely mated, and to give perfect satisfaction.

All orders filled at once.

L. L. Forehand, Fort Deposit, Ala.

Queens of MOORE'S STRAIN of Italians

PRODUCE WORKERS

That fill the super quick.
With honey nice and thick.

They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

Untested queens, \$1.00; six, \$5.00; 12, \$9.00.

Select untested, \$1.25; six, \$6.00; 12, \$11.00.

Safe arrival and satisfaction guaranteed.

Circular free.

J. P. MOORE,
Route 1, MORGAN, KY.*

Queen-breeder

Queens of MOORE'S STRAIN of Italians

QUEENS!

Three-band Italians
Untested 50 cts. each

The same ones you pay \$1 for, and just like the ones you get for \$1.50. Guaranteed to be as good as money can buy. Every one guaranteed to give perfect satisfaction; safe delivery also guaranteed. Write for prices on lots of 25 and more.

N. Forehand, Ft. Deposit, Ala.

Italian Queens

with a Record of 30 Years

Leininger's strain of Italian bees and queens have been carefully bred for 30 years; for gentleness and honey-gathering qualities are unexcelled; 95 per cent pure mating guaranteed. Queens ready June 1. Untested, each, \$1.00; 6, \$5.00; tested, \$1.50; 6, \$8.00.

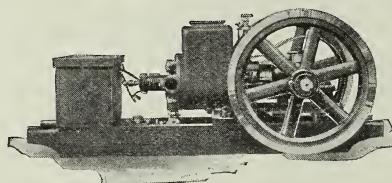
Fred S. Leininger & Son, . . Delphos, Ohio

ITALIAN QUEENS, NORTHERN BREED

are surely most hardy for Canada and northern States. Try one. Untested, \$1.00; select tested, \$1.50. List free. Plans "How to Introduce Queens, and Increase," 25 cts.

E. E. MOTTE, Glenwood, Mich.

THE BUSY BEE



1½ H. P. Gasoline Engine

A faithful worker and first assistant to the Bee-keeper. Will operate extractor, pump, grindstone, washing machine, etc.

The A.I. Root Co. endorse this engine. Ask them.

GILSON MFG. CO.

1000 Park St., Port Washington, Wis.

Where are You Located?

IN OHIO?—Then your orders will naturally gravitate to Zanesville, the Bee-supply capital of the state.

IN WEST VIRGINIA?—The large supply-house nearest to most beekeepers in this state is at Zanesville.

IN WESTERN PENNSYLVANIA?—
You are a next-door neighbor.

ELSEWHERE?—Zanesville service will yet commend itself to you as being the best obtainable.

The leading line of bee supplies, unsurpassed shipping facilities, years of experience, and painstaking care in packing and forwarding goods, fair and considerate treatment, all insure a degree of satisfaction that can scarcely be duplicated elsewhere.

If exasperating delays or otherwise unsatisfactory service have been your past experience, give us a chance to demonstrate the superiority of the service we offer.

Ask for our free illustrated catalog.

E. W. Peirce,

22 So. Third St. Zanesville, Ohio
Distributor for the largest bee-supply
factory in the world

The Eyes, Ears, and Mouth are Near Together

To see birds, hear their music, and taste honey are a happy trio.

There is a new and enlarged
Bird Department
in the
Guide to Nature

Send twenty-five cents for a four-months' trial subscription.

Address: **ARCADIA, Sound Beach, Conn.**

Classified Advertisements

Notices will be inserted in these classified columns for 25 cts. per line. Advertisements intended for this department cannot be less than two lines, and should not exceed five lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

HONEY AND WAX FOR SALE

FOR SALE.—Al sweet-clover honey in 60-lb. cans, two cans to a case, 7 cts. per lb.; also comb honey in 4 $\frac{1}{4}$ x 1 $\frac{1}{2}$ -inch sections, f. o. b. cars.

JOE C. WEAVER, Cochrane, Ala.

FOR SALE.—Raspberry, basswood, No. 1 white comb, \$3.00 per case; fancy, \$3.25; 24 Danz. sections to case; extracted, 120-lb. cases, 9 cts. per lb. W. A. LATSHAW CO., Clarion, Mich.

RASPBERRY HONEY.—Thick, rich, and delicious, put up for sale in 60-lb. tin cans. Price \$6.00 a can. Sample by mail for 10 cts., which may be applied on any order sent for honey. Write for price on large lots.

ELMER HUTCHINSON,
Rt. 2, Lake City, Mich.

HONEY AND WAX WANTED

Beeswax bought and sold. STROHMEYER & ARPE CO., 139 Franklin St., New York City.

WANTED.—Comb and extracted honey, in car lots and less carlots. J. E. HARRIS, Morristown, Tenn.

WANTED.—To buy a quantity of dark or amber baking honey. State price, and source gathered from. A. G. WOODMAN, Grand Rapids, Mich.

WANTED.—Your own beeswax worked into "Weed Process" foundation at reasonable prices.

SUPERIOR HONEY CO., Ogden, Utah.
"Everything in bee supplies."

FOR SALE

FOR SALE.—A full line of Root's goods at Root's prices. A. L. HEALY, Mayaguez, Porto Rico.

HONEY LABELS.—Most attractive designs. Catalog free. EASTERN LABEL CO., Clintonville, Ct.

SEND TODAY for samples of latest Honey Labels. LIBERTY PUB. CO., Sta. D, box 4-E, Cleveland, Ohio.

Good second-hand 60-lb. cans, 25 cts. per case of two cans, f. o. b. Cincinnati. Terms cash. C. H. W. WEBER & CO., Cincinnati, Ohio.

FOR SALE.—Cedar or pine dovetailed hives, also full line of supplies, including Dadant's foundation. Write for catalog. A. E. BURDICK, Sunnyside, Wash.

Beekeepers, let us send you our catalog of hives, smokers, foundation, veils, etc. They are nice and cheap. WHITE MFG. CO., Greenville, Tex.

Full-drawn combs on wired sheets of foundation, 20 cts.; 10-frame dovetailed hive-body, painted, 50 cts. E. E. PRESSLER, Williamsport, Pa.

EASTERN MICHIGAN beekeepers especially are invited to send for my catalog of Root's goods and specialties. Try me for satisfactory goods, prices, service. ARTHUR RATTRAY, Almont, Mich.

THE ROOT CANADIAN HOUSE, 185 Wright Ave., Toronto, Ont., successors to the Chas. E. Hopper Co. Full line of Root's goods; also made-in-Canada goods. Extractors and engines; GLEANINGS and other bee-journals; Prairie State incubators. Get the best. Catalog and price list free.

Nine-frame one-story hives, full sheets foundation, \$1.00; supers, drawn comb, 50 cts. MRS. R. SNYDER, Linderman Ave., Kingston, N. Y.

FOR SALE.—Several hundred eight-frame standard supers for 4 $\frac{1}{4}$ x 1 $\frac{1}{2}$ sections, cheap. THE ROCKY MOUNTAIN BEE CO., Forsyth, Mont.

Five hundred sixty-pound cans, good condition, at five cents each, F. O. B. Pittsburgh. Smallest shipment fifty. Payable upon arrival.

TWEED & BOTSFORD, Pittsburgh, Pa.

The Stanley improved cylinder cage with queen-cells, postpaid, 6 cts. each, or \$5.00 per 100. Write me for queen-breeders' supplies. ARTHUR STANLEY, 1907 Washington Blvd., Chicago, Ill.

FOR SALE.—Medium-brood foundation. 1 to 10 lbs., 52 cts. per lb. Up to 25 lbs., 50 cts. Up to 50 lbs., 48 cts.; 100 lbs., 48 cts. prepaid in La. Root's goods for sale. Beeswax wanted; 26 cts. cash, 27 trade. J. F. ARCHDEKIN, Bordlonville, La.

NEW HIVE.—Tested out three years. More honey produced. No heavy lifting. Non-swarming and robber-proof. Winters properly without labor or expense. Present equipment easily changed to it. Other advantages. Send for particulars.

W. M. F. McCREADY, Box 1, Estero, Lee Co., Fla.

FOR SALE.—Bee supply and honey business. Established more than a quarter of a century. Splendid location. Rare opportunity for the right man. Big money-maker. For information, address J. W. HARRINGTON, 1506 Merchants Bank Bldg., Indianapolis, Ind.

PATENTS

PATENTS THAT PAY: \$600,812.00 clients made. Protect your idea! Send data. Advice and two wonderful Guide Books free. Highest reference.

E. E. VROOMAN & CO., 834 F., Washington, D. C.

WANTS AND EXCHANGES

WANTED.—At once, 4 or 6 frame automatic extractor; must be in good condition, and price reasonable. FRANK WOODRUFF, Rt. 1, Powell, Pa.

WANTED.—To furnish every beekeeper within 500 miles of Boise, Idaho, with the best and cheapest bee supplies on the market, quality considered. Send me your order or a list of your requirements for 1916. Our catalog and price list will be mailed to you free. Order early and get the discounts.

C. E. SHRIVER, Boise, Idaho.

REAL ESTATE

FOR SALE.—A 36-acre ranch, free irrigation water, five-room house, honey-house, and out-buildings, all practically new; good home orchard; 200 to 500 colonies of bees; two good locations. Time on part, for Sept. 15th delivery.

J. G. PUETT, Collbran, Col.

A small farm in California will make you more money with less work. You will live longer and better. Delightful climate. Rich soil. Hospitable neighbors. Good roads, schools, and churches. Write for our San Joaquin Valley illustrated folders free. C. L. SEAGRAVES, Gen. Colonization Agent A. T. & S. F. R'y, 1934 R'y Exchange, Chicago.

SOUTHERN FARMS ARE PROFITABLE. Get our illustrated lists of good farms in Virginia, North Carolina, W. Va., Md., and Ohio, at \$15 per acre and up. Excellent little farms in colony of Little Planters, Shenandoah Valley, at \$250 and up, complete on easy terms. Fine climate, good markets; best general farming, fruit, poultry, trucking, and livestock country on earth. Write for full information now. F. H. LABAUME, Agr. Agt. N. & W. Ry., 246 N. & W. Ry. Bldg., Roanoke, Va.

BEES AND QUEENS

Finest Italian queens. Send for booklet and price list. JAY SMITH, 1159 DeWolf St., Vincennes, Ind.

Italian queen-bees, \$1.00 each; tested, \$1.50.
J. B. CASE, Port Orange, Fla.

Well-bred bees and queens. Hives and supplies.
J. H. M. COOK, 70 Cortlandt St., New York.

FOR SALE.—Untested golden Italian queens, 60 cts.
J. F. MICHAEL, Winchester, Ind.

Rhode Island Northern-bred Italian queens, \$1. Circular.
O. E. TULIP, Arlington, R. I.

Try my MAPLEWOOD queens. Sure to please. One dollar each.
GEORGE H. REA, Reynoldsville, Pa.

Fine three-banded Italian queens. Circular and price list free.
J. L. LEATH, Corinth, Miss.

Golden-all-over queens of quality. Untested, 75 cts.; tested, \$1.50.
A. O. HEINZEL, Rt. 3, Lincoln, Ill.

QUEENS THAT COUNT.—See our adv. elsewhere in this issue.
GEO. W. PHILLIPS, Lebanon, Ohio.

Italian untested queens, \$1 each; \$5 for 6; \$9 per dozen.
DOOLITTLE & CLARK, Marietta, N. Y.

FOR SALE.—600 colonies well-kept bees. All modern equipment. Write WM. CRAVENS, Rt. 7, San Antonio, Tex.

Vigorous, prolific Italian queens, \$1; 6, \$.5. My circular gives best methods of introducing.
A. V. SMALL, 2302 Agency Road, St. Joseph, Mo.

Northern-bred Italian queens of the E. E. Mott strain. July, 75 cts. Send for free list.
EARL W. MOTT, Glenwood, Mich.

Bright Italian queens for sale at 50 cts. each. Safe arrival and satisfaction guaranteed.
H. K. TURNER, Rt. 4, Greenville, Ala.

Bright Italian queens at 60 cts. each; \$6.00 per doz.; \$50 per 100. Safe arrival and satisfaction guaranteed.
W. W. TALLEY, Rt. 4, Greenville, Ala.

ITALIAN QUEENS.—Golden or leather colored; 75 cts. each; \$4.25 for 6; \$8.00 per doz. Tested, \$1.50.
NORDLING APIARIES, Button Willow, Kern Co., Cal.

Italian queens bred for their honey-gathering qualities. One, \$1.00; six, \$5.00.
EDITH M. PHELPS, Binghamton, N. Y. East End.

FOR SALE.—200 strong colonies with extracting equipment; unlimited range; continuous honey-flow. No disease.
J. O. HALLMAN, Unadilla, Ga.

FOR SALE.—Three-banded Italian queens, no disease. Tested, \$1.00; untested, 75 cts.; 6 for \$3.75.
MISS BIRDIE CULBERSON, Rt. 2, Silver City, N. C.

Leather-colored "Nutmeg strain" queens, \$1.00; \$10.00 per dozen. Tested, \$1.50. Special price on large lots by return mail.
A. W. YATES, 3 Chapman St., Hartford, Ct.

FOR SALE.—1 lb. 3-band Italian bees, \$1.00; untested queen, 65 cts.; tested, \$1.00; select tested, \$1.25. Rosedale Apiaries.
J. B. MARSHALL & SON, Big Bend, La.

Golden and three-banded Italians; 1 untested, 85 cts.; 6, \$4.80; 1 tested, \$1.25; 6, \$7.20. Satisfaction guaranteed. Bees, \$1.25 per lb.
D. L. DUTCHER, Bennington, Mich.

H. C. Short, queen-breeder, formerly of Winchester, O., is now with W. D. Achord, Fitzpatrick, Ala. We will appreciate the patronage of Mr. Short's customers.

FOR SALE.—Golden Italian queens that produce golden bees; for gentleness and honey-gathering they are equal to any. Every queen guaranteed. Price \$1; 6 for \$.5.
WM. S. BARNETT, Barnetts, Va.

Extra select untested golden and three-banded Italian queens, 75 cts. each; 6 for \$4.00; virgins, 30 cts. each. Satisfaction guaranteed.

G. H. MERRILL, Pickens, S. C.

FOR SALE.—Golden Italian queens, select tested, \$1.25; tested, \$1.00; untested, 60 cts. each; dozen, \$7.00; select untested, 70 cts.; dozen, \$8.00; no foul brood. D. T. GASTER, Rt. 2, Randelman, N. C.

Golden Italian queens by June 1. Untested queens, 75 cts. each, or \$8.00 per dozen; tested, \$1.25 each or \$12 per doz. Purely mated. Guaranteed. Send for circular. J. I. DANIELSON, Rt. 7, Fairfield, Ia.

QUEENS OF QUALITY.—The genuine "quality" kind of dark Italians, bred for business. Untested queens by return mail, 75 cts. each; \$8.00 per dozen. Circular.
J. I. BANKS, Dowelltown, Tenn.

Large well-bred three-band Italian queens by return mail; one, \$1.65; 12, \$9.00; guaranteed purely mated select tested, \$1.50; full colonies; 10-fr., \$8.00; 8-frame, \$6.00, queen included.
S. G. CROCKER, JR., Roland Park, Md.

Golden Italian queens that produce golden bees; the highest kind, gentle, and as good honey-gatherers as can be found; each, \$1.00; 6, \$5.00; tested, \$2.00; breeders, \$5.00 to \$10.00.
J. B. BROCKWELL, Barnetts, Va.

Golden Italian queens, bred strictly for business, that produce a strong race of honey-gatherers. Untested queens, 75 cts. each; \$8.00 per dozen; \$60 per 100. Prompt service and satisfaction guaranteed. L. J. DUNN, box 338J, Rt. 6, San Jose, Cal.

GRAY CAUCASIANS.—Early breeders, great honey-gatherers; cap beautifully white; great comb-builders; very prolific; gentle; hardy; good winterers. Untested, \$1; select untested, \$1.25; tested, \$1.50; select tested, \$2.00. H. W. FULMER, Andalusia, Pa.

FOR SALE.—Italian bees, 1 lb. with queen, \$2.25; one frame with queen, \$2.00. Queens, 75 cts. each. Safe delivery guaranteed; 30-page catalog with beginner's outfit for stamp. THE DERON TAYLOR CO., Newark, N. Y. (formerly Lyons).

FOR SALE.—Good Italian queens, untested, 75 cts.; tested, \$1.00; nuclei, 2 frames, \$3.00; 1-lb. package, \$2.00; 2-lb. package, \$3.00, with untested queen. Will be ready to send out about April 1.
G. W. MOON, 1904 Park Ave., Little Rock, Ark.

My bright Italian queens will be ready to ship April 1, at 60 cts. each; virgin queens, 30 cts. Send for price list of queens, bees by the pound, and nucleus. Safe arrival and satisfaction guaranteed.
M. BATES, Rt. 4, Greenville, Ala.

FOR SALE.—Fine Italian queens, three-banded; best that can be produced. Safe arrival and satisfaction guaranteed. Untested, 60 cts. each; 12, \$7.20; tested, \$1.00 each.
J. F. ARCHDEKIN, Bordlonville, La.

Phelps' Golden Italian Queens combine the qualities you want. They are great honey-gatherers, beautiful and gentle. Mated, \$1.00; six, \$.50; tested, \$3.00; breeders, \$5.00 and \$10.00. C. W. PHELPS & SONS, Wilcox St., Binghamton, N. Y.

Carniolan, golden, and three-banded Italian queens. Tested, \$1.00; untested, 75 cts.; 6, \$4.20; 12, \$7.80. ½-lb. bees, 75 cts.; 1 lb., \$1.25; nuclei, per frame, \$1.25. No disease; everything guaranteed. Write for price list. C. B. BANKSTON, Buffalo, Leon Co., Tex.

QUEENS.—Improved three-banded Italians, bred for business, June 1 to Nov. 15, untested queens, 75 cts. each; dozen, \$8.00; select, \$1.00; dozen, \$10.00; tested queens, \$1.25 each; dozen, \$12.00. Safe arrival and satisfaction guaranteed.

H. C. CLEMONS, Rt. 3, Williamstown, Ky.

Are you troubled with Paralysis or Isle of Wight disease? Our English friends write me that my strain of Italians are resistant to the Isle of Wight disease. Also satisfactory honey-producers to the foremost beekeepers of the United States and Canada. Untested, 1 for 75 cts.; \$7.50 per dozen. Tested, \$1.25 each or \$12.00 per dozen. Three-banded Italians, goldens. H. D. MURRY, Mathis, Tex.

Italian Queens of Quality, satisfaction guaranteed.
Introductory price 60 cts. each.
W. D. ROTH, Earlington, Pa.

FOR SALE.—30 10-frame colonies with equipment.
For particulars write A. M. LUDWIG, 205 Wing Ave.,
Collinsville, Ill.

Italian queens as good as can be produced. Un-
tested, 50 cts. each. Selected untested, 60 cts. each; tested, \$1.00 each. Safe arrival; no disease.
W. J. FOREHAND & SONS, Ft. Deposit, Ala.

Choice Italian Carniolan or Caucasian queens:
Untested, 75 cts.; tested, \$1.25; breeding queens, \$2.50; virgins, 40 cts. each; 3 for \$1.00. C. W. FINCH, 1451 Ogden Ave., Chicago, Ill. Phone Hay-
market 3384.

FOR SALE.—After July 15, 50 colonies of bees in
10-frame L. hives. Combs built on full foundation;
120 Danz. comb-honey supers; 1 Cowan 2-frame re-
versible extractor; 8 Holterman winter cases, etc.,
all in fine condition.

FRANCIS W. GRAVELY, Stockton, Va.

Queens now ready. Golden and three-band Italian
queens. I shall do my best to fill all orders
promptly. If any queen fails to give satisfaction I
will replace her free. Untested, 75 cts. each; six for
\$4.00. Send all orders to

E. A. SIMMONS, Greenville, Ala.

BY RETURN MAIL.—Young tested queens, \$1.00:
\$12.00 per dozen; untested, 75 cts.; \$7.00 per doz.
We breed the three-band Italians only, and we breed
for the best. We have never had a case of foul
brood in our apiary, and we guarantee every queen
sent out by us. J. W. K. SHAW & CO., Loreauville, La.

FOR SALE.—Three-banded Italian queens and bees
from the best honey-gathering strains obtainable.
Untested queen, 75 cts.; 6, \$4.25; 12, \$8.00; tested
queens, \$1.25; 6, \$7.00; 12, \$12.00. For select
queens add 25 cts. each to the above prices. For
queens in quantity lots, or bees by the pound, write
for prices. ROBT. B. SPICER, Rt. 181, Wharton, N. J.

TENNESSEE-BRED QUEENS! My three-band strain
that has given such universal satisfaction for over
40 years. Orders filled promptly or money returned
by first mail. 1000 nuclei in use. Tested, in June, \$1.75;
untested, \$1.00; in July, \$1.50 and 75 cts.
Postal brings circular.

JOHN M. DAVIS, Spring Hill, Tenn.

Queens by return mail or money back. Guaranteed
purely mated; 3-banded Italians, Northern
strain, bred for gentleness, honey-gathering, and win-
tering. Select untested, 75 cts. each; 6 for \$4; se-
lect tested, \$1.25 each. Write for price on large
orders; also bees by the colony. State inspector's
certificate. Satisfaction guaranteed.

J. M. GINGERICH, Kalona, Ia.

Fine Italian queens by return mail. Select golden
and three-banded, lined to select drones. Hardy,
prolific honey-gatherers. Single queen, \$1.00; 2
queens, \$1.75; 3 queens, \$2.50; 12 queens, \$9.00.
Six or more at dozen rates. No disease. Safe arri-
val. I positively guarantee every queen to give
reasonable satisfaction.

CHAS. M. DARROW, Star Route, Milo, Mo.

Famous Howe's, Root's, Moore's, Davis' select
strain of honey-gatherers, disease-resisting. None
better for all purposes. Untested, one, 75 cts.; doz.,
\$7.50. Select untested, one, \$1.00; doz., \$9.00; ½
doz., \$5.00; tested, \$1.25; doz., \$10.00; select tested
one, \$1.50; ½ doz., \$8.00; extra select, \$2.00. Bees
by the pound, \$2.50 with queen. Honey crop short.
Will have plenty of bees in June

H. B. MURRAY, Liberty, N. C.

Hollopeter's strain of three-banded Italian bees
and queens now ready. Bees, a full pound of the
right kind for business, with young laying queens, 1
pkg., \$2.25; 6 pkg., \$12.50; 2-lb. pkg., with queen,
\$3.25. Queens, bred for business, untested, each, 75
cts.; 12, \$8.00. Safe arrival in good condition
guaranteed. Health certificate with each shipment.
Circular free.

J. B. HOLLOPETER, queen-breeder, Pentz, Pa.

Carniolan, golden, and three-banded Italian
queens. Tested, \$1.00 each; 6, \$5.40; untested, 75
cts. each; 6, \$4.20. Bees, 1 lb., \$1.25; 2 lbs., \$2.25.
Nuclei, per frame, \$1.25; two-frame, \$2.25; eight-
frame hive, \$6.50; ten-frame hive, \$7.00. Write for
price on large orders. Everything guaranteed to
reach you in good order. No disease here. Cash
must accompany your order. Please mention GLEAN-
INGS. I. N. BANKSTON, box 315, Buffalo, Tex.

HELP WANTED

WANTED.—Experienced young man in apairy
work; good character, and active. Address P. O.
Box 40, Altamont, N. Y. 22260

MAN WANTED.—At once to work with bees. State
age, experience, and wages. Three or four months'
work. Address THE ROCKY MOUNTAIN BEE CO.,
Forsyth, Mont.

SITUATIONS WANTED

WANTED.—Position in apairy; 15 years' experi-
ence; capable of managing large apairy; \$50 per
month and board.

CLINTON VAN PELT, Charlestown, Ind.

Convention Notices

The annual field day meeting of the Idaho-Oregon
Honey-producers' Association will be held at Parma,
Idaho, July 12, on the premises of Gottfried Lohrli.
We are arranging with Governor Alexander to at-
tend this meeting, also to have all members who are
foul-brood inspectors in attendance so we may give
him some real information on the subject.

P. S. FARREL, Secretary.

New Plymouth, Ida., June 20.

NOTICE OF FIELD MEETING.

The Chicago Northwestern Beekeepers' Association
will hold a field meeting at the apairy of W. W.
Faulkner, 3000 North Cicero Ave., Chicago, July 15.
Everybody will bring lunch-baskets and have dinner
together, picnic style. There will be demonstrations
of treating foul brood as well as various other demon-
strations showing up-to-date methods of handling
bees.

JOHN C. BULL, Sec.

Valparaiso, Ind.

A SUMMER MEETING OF BEEKEEPERS.

In accordance with the action of the beekeepers
at the summer meeting held at Hamilton, Ill., last
year, the committee appointed has arranged for
another meeting to be held at Dubuque, Iowa, Aug.
1 and 2. It is to be hoped that a permanent organiza-
tion of the beekeepers of the upper Mississippi
Valley may be effected, and that these valuable meet-
ings may be continued. The Commercial Club of
Dubuque has promised royal entertainment for all
who attend. The meetings will be held in the beau-
tiful Union Park, one of the beauty spots along the
Mississippi. If the weather is inclement the meet-
ings will be held in the park pavilion.

These meetings are of vital importance to bee-
keepers, as they help to attract public attention to
the use of honey in addition to the value of informa-
tion gained by the personal contact of successful
honey-producers. Dubuque is a city of several
thousand population, and a honey market that has
hardly been touched. If more city meetings were
held so as to bring the use of honey before the
general public at home it would not be long before
the demand for honey would be doubled.

Every beekeeper who can possibly make arrange-
ments to attend this meeting will gain much of value
besides having a royal good time. Bring your wives
and families, and help make this one of the best
meetings ever held.

N. E. FRANCE,
A. L. KILDOW,
C. E. BARTHOLOMEW,
Committee.

\$575 IN PREMIUMS AT THE MICHIGAN STATE FAIR.

Entries in this department close.....

All exhibits in this department must be in place by.....

Each exhibitor at the time of filing entries will be required to take out an exhibitor's ticket, costing..

Exhibits in this department must be the product of the bees owned or controlled by the exhibitor.

All bees must be shown in observatory hives so as to be seen on at least two sides, and should not be so crowded with bees but that the queen can be easily found. They must be plainly labeled, and not allowed to fly during exhibition hours.

Exhibits of all kinds of implements, new inventions, and beekeepers' supplies are invited, for which space will be provided. No charge for space will be made for exhibits in this department.

In judging this exhibit the following score of points will be used:

SCORE FOR COMB HONEY.	
Color	15
Cappings	30
Finish	10
No travel stain	5
Color	15
Honey	50
Finish	10
Flavor	25
Comb	15
Well attached	15
Section	5
	100
	100

SCORE FOR EXTRACTED HONEY.

Style	10
Body	20
Color	30
Flavor	40

SCORE FOR BEESWAX.

Style	10
Color	35
Cleanliness	30
Aroma	25

100

SCORE FOR BEES AND QUEEN.

Uniformity for markings	50
Color	35
Size and shape	15

100

DISPLAY OF COMB HONEY.—Quantity, quality, up to the amount of 500 lbs.; appearance and condition for market to be considered. Premiums will be paid on a basis of 10 cts. per section for the first, 9 per section for the second, 6 per section for the third, and 5 per section for the fourth, for actual number of sections of comb honey shown. Maximum amount of premiums: First, \$50.00; 2d, \$45.00; 3d, \$30.00; 4th, \$25.00.

DISPLAY OF EXTRACTED HONEY.—Quality, quantity, up to the amount of 500 lbs., appearance, and condition for market to be considered. Premiums to be paid on a basis of 10 cts. per pound for the first, 9 for the second, 6 for the third, and 5 for the fourth, for actual number of pounds shown. Maximum amount of premiums: 1st, \$50.00; 2d, \$45.00; 3d, \$30.00; 4th, \$25.00.

DISPLAY OF EXTRACTED HONEY IN GRANULATED FORM.—Quality, quantity up to the amount of 100 lbs., appearance and condition for market to be considered. Premiums to be paid on a basis of 12 cts. per pound for the first, 8 for the second, 6 for the fourth, for actual number of pounds shown. Maximum amount of premiums: 1st, \$12.00; 2d, \$8.00; 3d, \$6.00; 4th, \$4.00.

DISPLAY AND SPECIAL DESIGNS IN BEESWAX. most attractive display, quality and quantity, up to the amount of 100 lbs., to be considered. 1st, \$20.00; 2d, \$15.00; 3d, \$10.00; 4th, \$5.00.

Special design in comb honey; 1st, \$15.00; 2d, \$10.00; 3d, \$3.00; 4th, \$2.00.

Specimen case of white comb honey, not less than 12 sections, quality and condition for market to be considered: 1st, \$5.00; 2d, \$3.00; 3d, \$2.00.

Specimen case of buckwheat comb honey, not less than 12 sections, quality and condition for market to be considered: 1st, \$5.00; 2d, \$3.00; 3d, \$2.00.

Specimens of white extracted honey, not less than 12 lbs. in glass jars, quality and condition for mar-

ket to be considered: 1st, \$5.00; 2d, \$3.00; 3d, \$2.00.

Specimens of buckwheat extracted honey, not less than 12 lbs. in glass jars, quality and condition for market to be considered: 1st, \$5.00; 2d, \$3.00; 3d, \$2.00.

Sample display of different kinds of extracted honey in 1-lb. glass jars, largest and best, labeled true to name: 1st, \$10.00; 2d, \$5.00; 3d, \$3.00; 4th, \$2.00.

Most attractive display of honey-producing plants, pressed, mounted, and named, not to exceed 25 varieties: 1st, \$5.00; 2d, \$3.00; 3d, \$2.00.

Golden Italian bees and queen in single-frame nucleus, observatory hive: 1st, \$5.00; 2d, \$3.00; 3d, \$2.00.

Leather-colored Italian bees and queen, in single-frame nucleus observatory hive: 1st, \$5.00; 2d, \$3.00; 3d, \$2.00.

Carniolan bees and queen in single-frame nucleus observatory hive: 1st, \$5.00; 2d, \$3.00; 3d, \$2.00.

Caucasian bees and queen, in single-frame nucleus observatory hive: 1st, \$5.00; 2d, \$3.00; 3d, \$2.00.

Full-colony and full-size observatory hive, showing different parts and appliances of hive, most attractive: 1st, \$10.00; 2d, \$7.00; 3d, \$5.00; 4th, \$3.00.

Sweepstakes, largest, best, most interesting, attractive, and instructive exhibit in this department, all things to be considered: 1st, \$25.00; 2d, \$12.00; 3d, \$8.00; 4th, \$5.00.

E. D. Townsend has been appointed judge of the bee and honey exhibit.

TRADE NOTES**BIG ADVANCE IN HONEY-EXTRACTORS.**

In figuring out the cost of extractors under new conditions, with our late cost-finding system, we find that our prices have been altogether too low to cover all the improvements which have been incorporated in recent years, and we are obliged to make a radical advance on all sizes in order to get a fair return for money expended in labor and material. Our revised list prices on all sizes listed in the catalog are as follows:

No. 4B Novice...	\$13.00	ROOT AUTOMATIC.
No. 5B Novice...	13.00	No. 15BR..... 20.00
No. 54B Novice...	20.00	No. 17BR..... 21.00
No. 84B Novice...	24.00	No. 18BR..... 23.00
No. 15B Cowan...	17.00	No. 20BR..... 24.00
No. 17B Cowan...	18.00	No. 25BF..... 44.00
No. 18B Cowan...	19.00	No. 27BF..... 45.00
No. 20B Cowan...	20.00	No. 30BF..... 51.00
No. 25B Root...	36.00	No. 37B..... 52.00
No. 27B Root...	42.00	No. 40B..... 55.00
No. 30B Root...	48.00	No. 47B..... 60.00
No. 7B Novice...	14.00	No. 37BF..... 55.00
No. 10B Novice...	14.00	No. 40BF..... 58.00
No. 74B Novice...	22.00	No. 47BF..... 63.00

These prices take effect at once, and prices from our California offices will be the same with freight added, figuring 3½ cents a pound on the weight as listed in the catalog.

ADVANCE IN PRICE OF WIRE NAILS.

In the first table of prices on wire nails as listed page 21 of catalog the new prices are:
2d fine, 12 cts. lb., \$1.10 for 10 lbs.; \$6.50 per keg.
3d fine, 11 cts. lb.; \$1.00 for 10 lbs.; \$6.15 per keg.
1¼-in. lining, 11 cts. lb.; \$1.10 for 10 lbs.; \$6.50 per keg.

All other sizes, 10 cts. lb.; 90 cts. for 10 lbs., and an advance of \$1.50 per keg added to present list.

To the fine flat-head nails in second table add 5 cts. per pound, \$3.00 per keg.

End-space staples, 20 cts. per lb.

Crate staples, 20 cts. per lb.

HONEY-TANKS AND OTHER METAL GOODS.

The honey-tanks listed in our catalog are advanced 15 to 25 per cent. Oil and gasoline stoves are raised 50 cts. each. Dadant uncapping-can is raised to \$10.00; German wax-press to \$14.00; Townsend uncapping-box to \$18.00; 1½ H. P. Busy Bee engine to \$36.00 with prospect that it will go to \$40.00 before long.

COMB-HONEY CARTONS AND LABELS.

The stock for cartons costs now more than double what we paid eight months ago when present prices were figured, so that we must make a further advance of 75 cts. per 1000, or \$1.50 added to present list price.

Paper of all kinds, and ink, have advanced to such an extent that on all orders for labels and other printing we must advance 20 to 30 per cent over the prices now listed. New lists will be issued shortly.

FURTHER ADVANCES BECAUSE OF INCREASED COST.

The two-wheeled cart listed at \$10.00 is raised to \$12.50, and without box to \$10.50. Daisy wheelbarrow is raised to \$4.50; the Coggshall bee-brush is raised to 20 cts.; No. 1 bee-veil is now priced at \$1.00; No. 2 bee-veil is now priced at 70 cts.; No. 3 bee-veil is now priced at 60 cts.; Alexander bee-veil priced at 70 cts.; Hatch wax-press at \$7.00.

BEESWAX MARKET LOWER.

We have had an unusual number of offerings of beeswax from beekeepers as well as dealers for this season of the year, and have an unusually large stock on hand. For several years before the war there was a shortage of wax at this season of the year, and prices reached their highest level in May and June. Till further notice we quote 27 cts. cash, 29 trade, delivered at Medina for average wax.

THE A. I. ROOT CO., Medina, Ohio.

Special Notice by A. I. Root

THE BARKER WEEDEER, MULCHER, AND CULTIVATOR.

The little tool I have written up so fully in this issue will be found pictured in our advertising pages. There is one part of it not shown in the advertisement; and that is, the three cultivator teeth on the opposite side of the scuffle-hoe shown in the cut. These teeth are keen and sharp-pointed, and on a curve, so that they cut into the soil with less force than anything I have ever gotten hold of. After having used the tool a week or more since my write-up, I am still of the opinion that it is going to make a revolution in gardening—especially in the line of hand cultivators.

PRINTING FOR BEEKEEPERS.—Noteheads, envelopes, cards, tags, etc. 1000 of either, \$2.15; 500, \$1.30; 250, 95c. Fine stock and cuts used. Lowest prices in the United States. Complete line of samples and price list free.

RENNECAMP PRINTING CO., McKees Rocks, Pa.

GOLDEN ITALIAN QUEENS

Bred from a strain of great honey-gatherers; gentle and prolific. Untested, one, 75 cts.; six, \$4.25; 12, \$8.00; 50, \$32.50; 100, \$60.00. All orders promptly filled and safe arrival guaranteed.

L. J. Pfeiffer, R. F. D. 15, Los Gatos, California

50c--Golden and 3-banded Italian Queens--50c

We guarantee them to be as good as money can buy. Our breeders are of the very best, our methods are the best known. If they are not satisfactory you can get your money back for the asking. Where can you get any more for big money? Virgins, 25 cts.; untested, one, 50 cts.; 100, \$45.00. Special offer to members of association thru their secretary. Get your secretary to write us. Queens we are offering you are choice. 1 lb. bees, \$1.25; 2 lbs., \$2.00; 1-fr. nucleus, \$1.25; 2-fr., \$2.25. Full colony 8-fr., \$6.00; 10-fr., \$7.00. No queens at these prices.

We also have breeders direct from Dr. Miller and can furnish queens of his strain, which is the best in the world. Start right, get some of the best in the world for the foundation of your strain.

To inquirers:—I am rearing no queens for sale, but am keeping The Stover Apiaries supplied with breeders from my best stock; and from thence you can obtain the same queens you could get directly from me.

C. C. Miller, Marengo, Ill., March 1, 1916.

Prices of Dr. Miller's strain: Virgins, 50 cts. each; 12 for \$5.00; Untested, \$1.00; 12 for \$10.00; Tested, \$2.00; Select Tested, \$3.50; Breeders, \$5.00 to \$10.00. Capacity over 2000 per month. Safe arrival and satisfaction guaranteed.

THE STOVER APIARIES, MAYHEW, MISSISSIPPI



By All Means Buy a Good Veil

Muth's Ideal Bee-veil, postpaid 75c;
with other goods, 70c.

OLD COMB AND CAPPINGS rendered
into wax with our hydraulic wax-press.
Perfect work. We buy your wax at high-
est market price. Write us.

THE FRED W. MUTH CO.
204 Walnut Street Cincinnati, Ohio

SPECIAL BARGAINS

In rearranging our stock we find a number of items no longer listed in our catalog, which some of our readers may be glad to get at the bargain prices at which we offer them to reduce stock or close out entirely. We list a number of these specials on this page, and may add others later as these are disposed of.

HIVE-HANDLES.

We have a surplus stock of handhole cleats such as we formerly included with all dovetailed hives, and which have been listed at 75 cts. for 100, and will dispose of them to those who want them at 25 cts. per 100; \$2.00 per 1000.

OLD-STYLE DOVETAILED CHAFF HIVES WITH BOTTOM TO NAIL FAST.

Of these old-style chaff hives we have a number of eight-frame packed 5 in a package, which we offer to close out as follows: YW 5/8, one story, eight frames, 12 packages, five hives each, at \$8.00.

NO. 2 OR B GRADE THICK-TOP STAPLE-SPACE FRAMES.

In culling over the material cut into Hoffman frames, we find pieces with slight defects which we do not want to put into perfect stock, but which are usable, and too good to throw into the furnace for fuel. We have accumulated some stock of such frames, which are packed 100 in a box, and offer them at \$2.25 per 100; \$10.00 per 500. These are a bargain at the price, to one who is not too particular as to what he uses.

1 3/4 H. P. SIXTY-SPEED ENGINE.

We have in stock two of the engines we formerly listed as sixty speed before adopting the Busy Bee engine. These are mounted on wheels, and have a counter shaft by means of which 60 different speeds can be obtained by the various changes of pulley sizes on the counter. This engine sold for \$60.00. We offer these to close out at \$45.00 each.

WHEELBARROW WHEELS.

We have a number of extra steel wheels for wheelbarrows, which we offer at a special price of \$1.25 each, or, including a pair of springs with bearings, for \$2.00. These wheels are 20 inches in diameter, with 1 1/2-inch tire, and solid cast hub holding spokes and axle in place. These wheels regularly sell at \$1.75, and springs at 50 cts. each.

SUPERS FOR EXTRACTING OR CHUNK HONEY.

We are offering, while they last, the following bargains in nailed supers for extracted honey. Some have been slightly used, and are in good condition. Prices f. o. b. Medina.

100 D9/10, nailed and painted, with top and bottom starters, nine frames in each, new. Sell new for \$1.20; offered at \$6.00 for 10; \$55.00 per 100.

100 8/10 supers, no paint. Sell new for 85 cts.; offered at \$4.50 per 10; \$40.00 per 100.

The first lots are the 5 5/8-inch supers with hanger cleats and shallow Danz. frames. The last lot are the same depth supers with shallow Hoffman frames hanging in rabbeted ends. Either style may be used for extracting or divisible brood-chambers. The price at which we offer them all nailed up is much below the regular price of same shipped in flat.

ALEXANDER FEEDERS FOR EIGHT FRAME HIVES.

The Alexander feeder as we now make it is adapted to either eight or ten frame hives. Formerly we made a shorter length for the eight frame than for

the ten frame hive. In cleaning up old stock we find 21 of these eight-frame feeders which we offer, to close out, at half regular price—viz., 15 cts. each; \$1.35 for 10.

TIN COMB-BUCKETS.

While these are listed in the catalog in one line at \$1.50 each, their convenience in carrying combs to the extractor shut up from robbers is not set forth. We have a surplus stock, and offer them, to reduce the number on hand, at \$1.25 each. You can place four Hoffman frames or five non-spaced frames of Langstroth size in each bucket.

JONES HONEY-KNIVES.

This is a form of honey-knife used largely in Canada, and preferred to the Bingham by those who have tried it. The blade is 1 1/2 inches wide, and a flat V or triangular shape. We had a lot made to supply a call we had, and still have in stock 28 of them. We offer them at 75 cts. each. Mailed as a pound parcel when packed.

TUMBLERS HOLDING 6 1/2 OZ., 40 DOZ. TO BARREL.

Having a surplus stock of honey-tumblers packed 40 dozen to barrel, including tin tops and wax-packed liners, we offer them for a short time, to reduce stock, at \$6.00 per barrel, or \$5.70 in 5-barrel lots, shipped direct from Medina.

SHIPPING-CASES FOR 12 AND 24 SECTIONS.

When we discontinued listing shipping-cases to hold 12 sections we still had quite a stock of various styles on hand, many of which are still in stock. We have also some of the older styles of cases for 24 sections of various sizes. We offer these various cases to close out at the following bargain prices. Here is an opportunity to lay in a stock of cases preparatory to the honey crop near at hand at very low prices. None of these cases, except as noted, are large enough to take sections with cartons or corrugated liners, except the bottom sheet. 12-lb. 2 or 3 row cases with 2 and 3 inch glass for the 4 1/4 x 1 7/8, 4 1/4 x 1 1/2, 4 x 5 x 1 1/8 sections, packed 50 in a crate at \$4.00 a crate; packed 10 in a crate at 85 cts. a crate. A few crates of cases for 16 sections 4 1/4 x 1 1/8, at \$4.50 per crate of 50 or 95 cts. per crate of 10. A few crates of cases for 24 sections 4 1/4 x 1 7/8, and 4 1/4 x 1 1/2, at \$8.00 per crate of 50; \$4.00 per crate of 25, or \$1.70 per crate of 10. The 12-lb. safety cases, which we no longer list with safety cartons, and 2-inch glass for 4 1/4 x 1 7/8, 4 1/4 x 1 1/2; and 4 x 5 x 1 1/8 sections, per crate of 10, \$1.20; per crate of 25, \$3.00. Without cartons, but including corrugated liners and glass, \$4.50 per crate of 50.

SHIPPING CASES NAILED READY FOR FILLING.

In repacking large quantities of comb honey we accumulate a number of empty shipping-cases which we cannot use for one reason or another. These are in good condition for use again, and are offered at the following bargain prices, each lot subject to previous sale: 390 11 13/16-inch four-row with 2-inch glass, just right for 24 sections 4 1/4 x 1 7/8; offered at 10 cts. each, lots of 100 or over; 9 carriers of 8 cases each, double-tier cases for 24 sections 4 1/4 x 1 7/8, offered at \$1.25 per carrier; 57 cases, 9 1/8 in. wide by 18 1/8 long, 5 1/8 deep, with 2-inch glass, offered at 10 cts. each; 100 cases, 10 1/8 x 18 1/4 x 5 1/8 deep, with 2-in. glass running the short way, offered at 10 cts. each; 100 cases, 10 1/8 x 18 1/4 x 4 5/8 in. deep, with 2-in. glass the short way, offered at 10 cts. each.

THE A. I. ROOT COMPANY, MEDINA, OHIO.